

Chapter 7

Defined benefit audit techniques

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**INTERNAL REVENUE SERVICE
TAX EXEMPT AND GOVERNMENT ENTITIES**

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Introduction

Purpose of chapter

The purpose of this chapter is not to make you an Actuary. Actuaries must study for many years and take several tests before they that can become an Actuary. The purpose of this chapter is to point out those areas that are of particular concern when examining Define Benefit Plans. Some of these areas the Agent will be able to resolve. In other instances the Agent will be instructed to rely on the expertise of our staff actuaries

How a defined benefit plan operates

Basics of a DB plan

Definition of Defined Benefit and Defined Contribution plans.

IRC section 414(j) defines the term “defined benefit plan” to mean “any plan which is not a defined contribution plan.” Thus, you must first define what a defined contribution plan is. IRC section 414(i) defines the term “defined contribution plan” as

“a plan which provides for an individual account for each participant and for benefits based solely on the amount contributed to the participant’s account, and any income, expenses, gains and losses, and any forfeitures of accounts of other participants which may be allocated to such participant’s account.”

Breaking down this language, a defined contribution plan provides the following:

1. Individual Accounts for each participant.
 2. Allocation of a yearly contribution (including forfeitures) to the Individual Account.
 3. Allocation of the trust’s gains (or losses) annually to the Individual Account.
 4. Payment of the “pension” is based on the amount in the Individual Account at retirement.
-

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Basics of a DB plan, Continued

Distinction between a DB and DC plan—DC plan structure

The real difference between a DC and DB plan is how the benefit is provided by the plan. In a Defined Contribution Plan, the approach is to define and contribute, under the terms of the Plan, the amount that goes to each employee's individual account. Examples of these types of plans include Profit Sharing, Stock Bonus, ESOPS, 401(k)s, Money Purchase and Target Benefit plans.

The amount of pension that will be provided is directly affected by the following three items:

1. How much is put away each year.
2. How much the individual account earns.
3. How long it stays in the individual account.

Illustrating a DC plan

For example, let's say we have a money purchase plan that provides the Employer will make a contribution each year of \$832. Let's also assume that for the purposes of providing a monthly life annuity we are using UP 84 @ 5 % and that normal retirement age is age 65.

Finally, let's assume that the Participant enters the Plan at age 55 and retires at age 65.

<i>If the Average Trust Earnings were:</i>	<i>Then at 65, the Account would be:</i>	<i>And the Monthly Annuity would be:</i>
6 %	\$10,966	\$ 91
8 %	\$12,053	\$100
10 %	\$13,260	\$110
12 %	\$14,601	\$121

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Basics of a DB plan, Continued

Amount of annuity depends on the trust earnings—not a promised benefit

By allowing only the rate of return to change in the above example, we can see the direct impact earnings have on a participant's potential annuity. If you have the good fortune to retire when returns and assets values are high you could easily wind up with twice the monthly annuity.

DB plan approach to providing benefits and types of DB plans

Defined Benefit Plans has a different approach in providing an annuity—that is the amount of the annual annuity to be provided at the retirement age is defined by the Plan. An Actuary then determines how much should be contributed each year to fund for the benefit.

Defined Benefit Plans include

- Unit Credit,
- Flat Benefit,
- Fixed Benefit, and
- Cash Balance plans.

Unlike Defined Contribution Plans, there is no separate account in the participant's name from which the benefit must be funded. A participant's benefit comes from the Trust as a whole.

Thus the performance of the fund has no impact on the benefit provided to a participant. Whether the Trust earns 10 % or 5 %, the participant's benefit will still be as defined in the Plan. Fund performance will impact on funding, as explained later.

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Basics of a DB plan, Continued**Illustrating DB plan—how the funding is determined—without earnings**

For example, assume the same facts as above except that instead of a contribution of \$832 a year, the plan provides for a life annuity of \$100 a month at age 65.

At age 65, again based on UP 84 @ 5 %, the plan will need \$12,040 to fund for the benefit. If the person were age 65 the Employer would have to contribute \$12,040 to fund the annuity.

Since the employee is only 55, then the employer can fund the \$12,040 over 10 years.

If we were to assume that the trust didn't have earnings, then the employer would have to contribute \$1,204 each year in order to have the \$12,040 at 65. However, we know that the money will be invested and there will be earnings. Accordingly the Actuary will assume the fund will grow at a specified rate.

Determining the earnings for funding purposes, and how differences between earnings estimates and actual are recorded.

How do they determine what rate to use? It's an educated guess based on the past performance of the fund or similar plans. It may also take into consideration other factors that can impact funding.

What happens if the Actuary assumed a rate that is either greater than or less than and the trust's actually earnings? In that case either too much or too little money would accumulate.

This is where the actuarial report comes in. Depending on the funding method used, these amounts, either the shortfall or the over-funding (if the plan actually earned more than the estimates), will either be spread over the future normal costs or calculated as immediate gains (losses) each year. These concepts will be explained in detail later.

Continued on next page

Basics of a DB plan, Continued

Other factors taken into account when determining the contribution amount

There are other factors that the Actuary can consider when determining costs.

The two main ones you may have heard of are:

- Turnover, and
- Mortality.

What both of these factors assume is that not all Participants will continue working for the employer until retirement to collect the \$100 a month benefit.

Some will die (mortality) and some will leave (turnover) before being eligible to collect the full \$100. The impact and applicability of these assumptions will be discussed later.

Reviewing a DB plan document

DB plan similar to a DC plan

In many areas the examination of a Defined Benefit Plan is similar to that of a Defined Contribution Plan. The review of coverage, discrimination, vesting and asset verification will be the same. As with any examination a good pre-audit is needed to determine the scope and nature of the audit.

Prior to the audit the Agent should secure and review copies of the following documents:

1. The Plan Document as in effect for the year under examination.
2. A copy of the last Determination Letter issued with regard to the Plan.
3. Copies of all amendments to the plan since it was last approved.
4. Copies of the three prior years, the current year and the subsequent year Form 5500 Schedule B's as filed.
5. Copies of the Actuarial Report as completed for the years noted above.

[Note: An Actuarial Report is required every year. Why you need these items and what to look for will be explained as we go along.]

**Reviewing a DB plan document—
what changes to look for**

When reviewing the plan documents noted above, you are looking for plan changes that will have an impact on the funding of the Plan. Look for the following items when reviewing a plan document, such as changes in:

- Eligibility
- Accrual method or benefit formula,
- Vesting schedule, and
- Normal form of benefit.

Continued on next page

Reviewing a DB plan document, Continued

Eligibility changes

Changes in the Plan's eligibility requirements will impact on the funding of the plan by changing the number of Plan Participants. This can result in increased normal costs or the amortization of a new base. For example:

1. The covering (excluding) a portion of the business that was previously excluded (included), such as the adoption of the Plan by a subsidiary.
2. Including (excluding) previously excluded (included) groups such as union employees or non-adopting subsidiary /employers /divisions.
3. Changes to the age or service requirements of the Plan

Changes in the accrual method or benefit formula

Changes in the accrual method or benefit formula will also impact on funding. For example:

- A. Mid year entry where the plan previously allowed entry only at the beginning of the year.
- B. Change in the number of hours of service required to accrue a year of benefit service.
- C. Changing the Plan to a Cash Balance type Plan
- D. Any change to the plan's benefit formula.
- E. Adding (deleting) an offset to the Plan's benefit.

Both the changes in accrual method and eligibility changes directly impact on the benefits or accrued benefits being provided to participants.

Other changes that may impact on funding

1. Changes in the vesting schedule may also impact on funding, particularly in larger plans that use a turnover assumption.
2. Changes in the Normal Form of Benefit and any other benefits (like death benefits) can impact on funding. Certain benefit forms are more expensive than others. The inclusion of a death benefit will also increase costs and add new dimensions to the funding method.

Continued on next page

Reviewing a DB plan document, Continued**Actuarial report may not reflect plan document changes**

Finally, does the Actuarial Report's recitation of the major plan provisions match the plan document in effect? Often, the actuarial report does not tie in because the Plan was amended and the actuary was not informed of the change.

If you see any changes, make a note to yourself about what the change was and when it was effective. If the actuarial report doesn't reflect a corresponding change in funding you will want to ask their actuary about it. If his answer doesn't make sense, see one of our actuaries.

Cash Balance Plans

Introduction

Back in the Pre ERISA days, there was a basic assumption that an employee would spend their entire career working for one employer. In that environment, a Defined Benefit Plan using a benefit formula based on a final average pay made sense. A participant wasn't concerned with the rapid accumulation of benefits while he was young. In the long term a participant could project what his benefit would be at normal retirement and plan accordingly.

Today's workforce is more mobile. Studies show that the majority of employees do not stay with one company throughout their careers. In this environment, the long term benefit appeal of Defined Benefit Plans is lost. In addition, the added complexities of complying with Defined Benefit requirements made the plans less appealing to Employers.

Finally, explaining the benefit provided by a Defined Benefit Plan was too complicated for the average plan participant to understand. Today's participants have trouble relating to a monthly benefit at 65. Any Agent who has tried to explain the impact of a Plan's termination to a layman knows the frustration.

A Cash Balance Plan looks like a defined contribution plan since a yearly "Cash Balance" (like an account balance) is calculated and reported to the participant. It is, however, a defined benefit plan since:

1. There are no Individual Accounts for each participant.
2. There is no allocation of a yearly contribution.
3. The trust's gains (or losses) do not impact on the benefit.

Since a Cash Balance is a Defined Benefit Plan, it is subject to all the requirements of Defined Benefit Plans including the funding requirements under IRC section 412.

Continued on next page

Cash Balance Plans, Continued

Components of a cash balance plan

A typical Cash Balance Formula contains the following components:

1. A “Hypothetical Account” to which is added a “pay credit” or “benefit credit” and an “interest credit”
2. A “Pay Credit” or “Benefit Credit” is the plan specified amount that is placed into the Hypothetical account for each participant, which is usually be expressed as a % of compensation.
3. The “Interest Credit” is the plan specified amount of earnings which is placed into the Hypothetical Account.

At the end of a period each participant will receive a statement which reflects the current value of their Hypothetical Account Balance.

Remember that the “account” exists only on paper. There is no real account. The value of all of the participant accounts as of any date may be more, less or equal to the actual market value of the of plan assets at that time. This is because the “interest credit” is unrelated to the actual earnings of the trust.

Example of a typical cash balance formula

A Participant’s Accrued Benefit shall be equal to the greater of:

1. The annual benefit provided at Normal Retirement Age utilizing the Applicable Interest Rate in effect for the current year provided by the Participant’s Hypothetical Account Balance or
2. The Participant’s Top Heavy Minimum Benefit.

A Participant’s “Hypothetical Account Balance” shall be determined as of each Valuation Date and shall be equal to the sum of:

1. The value of the Participant’s Hypothetical Account Balance as of the immediately preceding Valuation Date,
 2. Any Units of Interest credited to the Hypothetical Account Balance for the current Valuation Period,
 3. The Units of Benefit credited to the Hypothetical Account Balance for the current Valuation Period, and
 4. Reduced by any distribution to, or with respect to, the Participant from the Plan during the current Valuation Period.”
-

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Cash Balance Plans, Continued

Definitions

“**Units of Benefits**” are:

1. for any Participant who is President or Vice President, the maximum benefit provided under Section 415 of the Code which shall not exceed the lesser of ten times the Special Bonus or 100 % of Compensation, and
2. for all other Participants, 2 % of such Participant’s Compensation for the Year of Participation.

A Unit of Interest is the Hypothetical Account Balance as of the last Valuation Date times the Applicable Interest Rate for the Plan Year in which the Valuation Date occurs.

Compensation is defined as the annual compensation earned in the Plan Year.

The Special Bonus is the bonus declared as such by Employer’s Board of Directors at the end of the year.

The Valuation Period is the Plan year.

Applying the cash balance formula

For the purposes of demonstrating this example, let’s assume there is a Participant “A” who is not a President or Vice President. He enters the Plan at age 55, Normal Retirement Age is 65 and he earns \$40,000 a year. Let’s also assume that the Applicable Interest Rate is 7.5% each year and that UP 84 is used.

At the end of his first year Participant “A” would receive a statement that his Hypothetical Account Balance is \$800 (2% of compensation or \$40,000). In fact, his accrued benefit is a monthly benefit of \$14.

By the end of year 5 his Hypothetical Account Balance is \$4,647 while his accrued benefit is a monthly benefit of \$64.

If a plan is properly written to coincide with the IRC section 417(e) rates, then a participant’s lump sum value at any point in time will equal his Hypothetical Account Balance.

Basics of funding methods

Microsoft Excel can be very useful in doing funding calculations

The following sections dealing with the various funding methods are written in such a way so that you can (if you wish) follow along with the calculations so that you can better understand how the method works.

Some of you may wish to do some of the calculations yourself. In the “old days” we used to use our financial calculators, which some of you may still be using. However, Excel is a great program for doing these calculations.

One great advantage of Excel is that you can copy a formula many times over to create a calculation for each participant. By setting the factor requested (i.e.: interest rate) to a “cell”, you can change an entire spread sheet by changing that one cell. So you can, for example, review the impact of variations in interest rates.

To learn powerful Excel features, you may want to consider taking the on-line computer courses offered by IRS Skilsoft.

Important definitions--introduction

In order to see how the different funding methods operate, you will need to understand the following terms:

- Annuity Purchase Rates,
- Discounting,
- Temporary Annuity Factor, and
- Future Value of Payments,
- Salary Scale,
- Mortality,
- Retirement Age, and
- Turnover

Continued on next page

Basics of funding methods, Continued

**Annuity
Purchase rate**

An annuity purchase rate is the cost that it would take to buy a \$1 per year life annuity. The annuity purchase rate factors in life expectancy and assumes an interest rate. For example UP 84 @ 5 % has an Annuity Purchase Rate at 65 of \$10.03, meaning that it would cost \$10.03 to buy a \$1 life annuity beginning at age 65.

Remember to adjust your annuity interest rate to the type of payment being made. You must determine whether the annuity purchase rate that is used is based on a monthly or a yearly annuity.

For purposes of this text, a yearly annuity or benefit is used. Since most Annuity Purchase Rates are presented as a monthly annuity, you will need to divide the Annuity Purchase Rate by 12 to get the yearly annuity purchase factor. For example UP 84 @ 5 % has an Annuity Purchase Rate at 65 of 120.4 for a monthly benefit. The yearly benefit factor would be 10.03 (120.4/12).

Continued on next page

Basics of funding methods, Continued

Discounting

In various examples you will be asked to determine the present value of a future amount. Such amount is usually converted from an annuity so that the employer knows the cost of that annuity when the participant reaches age 65.

For example, to have \$902,700 (to be able to fund the participant's retirement benefit at 65), how much do you have to put away now at age 55 assuming 5 % interest.

With Excel, the formula to calculate the present value in the "cell" will be:

The Future Value x (1 + the interest rate) ^- years to 65, or

$$+902700*(1.05)^{-10}.$$

The "^" is the symbol used to indicate the number of years involved. In Excel, this is an exponent. The "-" sign indicates discounting to a present value and is used instead of using the "/" symbol. Thus, the formula

Future Value/(1+interest rate)^years to 65 or

$$+902700/(1.05^{10})$$

would give you the same present value.

Remember, you:

- divide the future value by the "exponential factor" to calculate the present value and
- multiply the present value by the exponential factor to get the future value.

The present value of \$902,700, using 5% interest is \$554,179.50.

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Basics of funding methods, Continued

Temporary Annuity Factor

A temporary annuity factor is the factor used to determine how much must be put away each year so that at the end of the period you have accumulated the amount needed, including interest. The concept is similar to a mortgage payment—it is a level payment which includes both interest and principal.

From the above example, how much must the employer contribute each year (as a level payment) so that after 10 years, the employer will have the \$902,700 needed to purchase the retirement benefit for the participant.

To calculate the Temporary Annuity Factor, open up an Excel Spread Sheet. While in a “cell” choose the function button from the menu bar (the “fx” button). From the dialog box choose “PV”. Now you just have to fill in the dialog box as follows

<i>Under</i>	<i>Insert</i>	<i>For example:</i>
Rate	.05	The interest rate assumed – enter as decimal
Nper (number of periods)	10	Years being spread over
PMT		Leave Blank
FV	-1	Always use \$1
Type	1	Paid at beginning of period Enter “0” or leave blank if paid at end

Note: the Temporary Annuity Factor will appear as a negative number on the spread sheet unless you indicate the PMT as a negative number (–1).

Results of calculating the annuity factor

After you click the OK button the Temporary Annuity Factor will appear in the cell. Take the Dollar Amount in question and divide it by the Temporary Annuity Factor and you get the amount required for each year. In the above example you should get 8.1078 as the Temporary Annuity Factor and the yearly payment will be \$111,336.92.

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Basics of funding methods, Continued

Future Value of Payments As part of the calculations, you may have to determine the future value of a set number of payments. For example, using the problem above, what if the employee entered the plan at age 60 but we're figuring cost from age 55.

We would want to know the future value of the 5 payments from age 55 to age 60. To use Excel, while in a "cell" choose the function button from the menu bar (fx). From the dialog box choose FV. Now you just have to fill in the dialog box as follows

<i>Under</i>	<i>Insert</i>	<i>For example:</i>
Rate	.05	The interest rate assumed – enter as decimal
Nper (number of periods)	5	Years being spread over (60-55)
PMT	-111336.92	Payment per year
FV		Leave Blank
Type	1	Paid at beginning of period

(Note: the Future Value will appear as a negative number on the spread sheet. To make it positive the PMT should be –.)

After you click the OK button the answer will appear in the cell. You should have gotten \$645,967.18.

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Basics of funding methods, Continued

**Standard
example--facts**

Since the purpose of this section is to explain how the different funding methods work, and not to test your abilities in Excel, we have attempted to use a standard set of facts in each example. Unless otherwise stated these facts are:

- Employee's benefit at 65 is \$90,000
- The Annuity Purchase Rate is 10
- The Interest Rate is 5 %
- The Plan is first put into existence when he was age 40.

Funding DB plans

Purpose of funding methods—to estimate future costs

The employer cannot accurately determine in advance the total costs under a defined benefit plan because certain factors are not known. Such factors are:

- Earnings of the trust,
- Life span of the participants,
- Compensation of participants in future years
- Whether the participants will stay with the employer until retirement,

Since benefits are funded before they become payable, these factors (and others) must be considered and estimated in advance.

Purpose of actuarial report is to describe funding method

The purpose of the Actuary's report is to outline how the Plan will be funded now to provide these future benefits taking into account the factors noted above. The assumptions used in this estimate must be reasonable.

Each individual assumption must be reasonable standing on its own.

If the experience of the Plan is not the same as the experience predicted by the Actuarial Assumptions, an Actuarial Gain (or Loss) will result. These Gains (Losses) will be reflected on the Actuarial Report in some manner, depending on the Funding Method.

Assumptions used in funding and determining whether they are reasonable

Introduction

The following are the most common types of assumptions you will see in an Actuarial Report:

- Interest,
- Salary Scale,
- Mortality,
- Retirement Age,
- Turnover,
- Asset Valuation Methods

If you encounter an assumption not listed here you should contact your Actuary for help.

Whether assumptions are reasonable—introduction

This is a loaded question. A few years back, we attempted to contest some smaller plans that appeared to be using unreasonable assumptions—the “Act.Val. cases”. In the final analysis, the IRS lost when these cases went to court. Why, because all assumptions are educated guesses. With the exception of certain obviously unreasonable assumptions (i.e.: no post retirement mortality, the reasonableness of the assumptions becomes a battle of the experts.

An Actuary must make the determination of whether assumptions are unreasonable. If you run into questionable assumptions, ask our Actuaries.

Interest assumption and whether the assumption is reasonable

Interest Assumption-introduction

There are actually two interest assumptions that are used:

- Pre Retirement, and
- Post Retirement Interest.

Both are the Actuary's best guess at what the investment yield on the trust will be. They do not have to be the same rate.

Guidelines when making interest assumptions

When determining the interest assumption, the Actuary must follow certain guidelines.

1. The actual interest earned by Trust should include the gain (loss) realized due to the sale of assets as well as the unrealized gain (loss) on securities still held by the fund.
 2. Some plans specifically provide that the various plan expenses (i.e.: administrative costs, brokerage fees etc.) will be paid from the fund. The Actuary may set the interest assumption to be the rate without recognition of these expenses, but would probably then add the expected expenses to the annual plan cost. In the alternative the Actuary could set the rate to be net of expenses, in which case the assumed rate would be lowered.
-

Effect of interest assumptions

As the interest rate increases, the amount needed to fund the same benefit decreases. The reverse is also true, as the assumed interest rate decreases the more needed to fund the benefit increase.

Note: A Rule of Thumb: A 2 % change in the interest rate changes the annual cost by about 40 %.

Actuarial gain/loss when interest assumptions are different from actual fund earnings

- If the Interest Assumption is less than the actual fund earnings, an Actuarial Gain results.
 - If the Interest Assumption exceeds the actual fund earnings an Actuarial Loss results.
-

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Interest assumption and whether the assumption is reasonable, Continued

Reasonable interest

This is tough to determine, especially in today's asset environment. At one point, the IRS took the stance that assets generally grow at the rate of 8 % per year in the long term. This may not be true anymore.

Income Tax Regulations 1.401(a)(4)-12 requires the use of an interest assumption no less than 7.5 % nor greater than 8.5 % for nondiscrimination testing. Even though this regulation does not deal with funding, an actuary can certainly cite the regulations and use these assumptions.

An interest assumption of less than 5 % or more than 12 % may not be reasonable—however, you need to look at today's environment. Also, you need to ask why that rate was chosen. Maybe the investment strategy of the trustee is extremely conservative and historically the trust only earns 5 % or less. In addition, maybe the trustees were able to generate a historical return of 12 %. If the Actuary can prove this, then the assumption is valid for that plan.

Salary Scale assumption

Salary Scale The salary for individuals does not remain stagnant. Workers expect and usually receive some raise each year.

A salary Scale anticipates future increases in compensation in order for that the costs of the increases are spread out evenly. Otherwise, the costs would keep rising after each raise.

There should always be a pay increase assumption unless:

1. Benefits are not related to compensation (i.e.: \$100 per year worked),
2. The Actuary is using implicit assumptions, or
3. Benefits earned are already limited by IRC 415 or 401(a)(17).

The use of a salary scale can substantially increase current costs.

For example, assume a plan provides a benefit at 65 of 50 % of compensation and you have a participant who is age 40 and earning \$30,000.

Without a salary scale the benefit to be funded for at age 65 would be \$15,000.

If you use a modest 5 % salary scale, that same individual at age 65 will be earning \$101,591 and the benefit would be \$50,795.

Whether a salary scale is reasonable

The use of a Salary Scales is generally reasonable, provided the rate of growth in salary reflects the history of the employer or the industry.

A Salary Scale would not be reasonable if the benefit under the plan is not related to salary or all participants earn compensation that is in excess of the maximum amount that can be considered for benefits. Thus, reading the plan is important for this issue.

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Salary Scale assumption, Continued

Examples illustrating whether salary scale is reasonable

Example: A plan's benefit formula \$12.50 per month for each year of participation. This is typical of a formula in a union plan.

Since the rate of compensation doesn't affect the amount of benefit, the use of a salary scale would be unreasonable.

Example: A plan's benefit formula is a yearly benefit equal to 2 % times average compensation times years of participation. No participant had average compensation in excess of \$50,000.

The Actuary assumes a 5 % salary scale. In this instance, since the maximum average compensation is not in excess of 401(a)(17) or of 415 and the rate of the salary scale is reasonable, the salary scale would be reasonable.

Example 4: The same facts as Example 3 except that the Actuary assumes a 45 % salary scale. In this instance, even though the maximum average compensation is not in excess of 401(a)(17) or of 415, the rate of the salary scale appears to be unreasonable.

Example 5: A plan covers only union employees. For each year of participation, a participant receives a yearly benefit of 2 % of his compensation for the year (career average plan) not to exceed \$200 for any one year. The plan requires 1,000 hours of service to accrue a full benefit for any year. The last union contract negotiated prior to the year you are examining provides a starting hourly rate of \$10 per hour. A salary scale may be reasonable.

The initial reaction is that at \$10 an hour minimum wage, a participant would earn \$10,000 in the year and 2 % of \$10,000 is \$200 or the maximum benefit the plan provides, therefore future increases in compensation will not affect the benefit. However, since this is a union plan it would be reasonable to conclude that the maximum benefit under the plan would also be subject to negotiation. In fact, pension and welfare benefits are often used in negotiations to offset current wage demands. The Actuary could reasonable assume this would continue to be the practice and may be able to produce a demonstration based on past negotiations.

Mortality assumption

Mortality

With Mortality tables, Actuaries calculate the probability of a participant dying at each age. As you would expect, the probability of dying at a young age is very small. The probability increases as your age increases. In the Actuarial Report, the mortality is usually stated by giving the name of the table (i.e.: UP84) being used. It may also be stated as the Annuity Purchase Rate (“APR”).

Since there is a measurable difference in mortality between men and women (women tend to live longer), an Actuary is allowed to recognize this difference in his/her calculations. These may take the form of gender sensitive mortality tables or in a set back/forward of one table.

For example a life annuity using IA 83 (-0,-6) table at 7 % means that for the purposes of the table there is no set back for men (“-0”) and a 6 year set back for women “(-6)”. In other words a women reaches the same mortality rate as a man does 6 years later. At age 65, a man’s APR is 117.68014 while a women’s is 132.00617. In fact she doesn’t reach 117.68010 until age 71 (or 6 years later).

As with interest assumptions, there are both pre and post retirement mortality assumptions. All Plans have a post retirement mortality assumption that is either stated separately or is embedded in the annuity purchase factor. Failure to have a post retirement mortality assumption means that you live forever, which is not acceptable. If you don’t see a post retirement mortality assumption, please raise this issue with the employer’s actuary. If the answer doesn’t make sense, see our Actuaries.

Not all plans have a pre retirement mortality assumption. This is particularly true in small plans (less than 25 lives). The Actuary for these plans may be assuming that no one dies before retirement age. This may also depend on the type of death benefits are under the Plan. Most larger plans do use a pre retirement mortality assumption.

Where actual pre retirement mortality exceeds the assumed rate, an actuarial gain or loss can occur, depending on the value of death benefits under the plan. Where actual post retirement mortality exceeds the assumed rate, an actuarial gain results since fewer benefits will be paid.

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Mortality assumption, Continued

Whether mortality assumption is reasonable

Pre Retirement Mortality and Turnover: This is a tough one to determine. Small plans (under 25 lives) will probably not have a pre-retirement mortality or turn over assumption. In fact, the smaller the plan, the less reasonable such an assumption generally becomes.

Where a plan covers only one person (the owner), pre retirement mortality or turnover is not applicable since a benefit will always be paid from the plan. In the case of a plan covering 5 or fewer participants that has a pre retirement mortality or turn over, you may wish to consult our Actuary.

Post Retirement Mortality: The majority of plans use stated tables. Again, using Income Tax Regulations 1.401(a)(4)-12 as a basis, the use of any of the Standard Mortality Tables listed would appear to be reasonable.

These tables are:

1. UP-1984 Mortality Table (Unisex);
2. 1983 Group Annuity Mortality Table (1983 GAM) (Male & Female);
3. 1983 Individual Annuity Mortality Table (1983 IAM) (Male & Female);
4. 1971 Group Annuity Mortality Table (1971 GAM) (Male & Female);
5. 1971 Individual Annuity Mortality Table (1971 IAM) (Male & Female).

In some instances, a separate mortality table may not be stated. Instead, an annuity factor (i.e.: an Annuity Purchase Rate) may be stated. If you don't see a post-retirement mortality or an Annuity Purchase Rate assumption, ask where it is in the plan. If the report doesn't contain either or doesn't otherwise assume a post-retirement mortality, you should refer the case to our Actuary.

Retirement Age assumption

Retirement age The Actuary must make an assumption about the age at which the participant is expected to begin receiving benefits under the plan. This expected retirement age may be the Normal Retirement Age under the Plan or may be a different age.

Some of the larger plans may use several retirement rates at different ages rather than a single assumed retirement age for all participants.

How retirement age affects the cost The earlier the assumed retirement age the larger the cost. This is due to two reasons:

1. The earlier the retirement age, the longer the same benefit has to be paid. If you retire at age 55 vs. 65 there will be 10 more years of payments needed. Thus the liability increases as the age decreases.
2. The earlier the retirement age, the shorter the period during which the benefit can be funded.

An actuarial gain occurs when the assumed retirement age is earlier than the actual retirement age under the Plan. This is because the actual retirement is less expensive than the anticipated cost.

An actuarial loss occurs when the assumed retirement age is later than the actual retirement age under the Plan. This is because the actual retirement is more than the anticipated cost.

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Retirement Age assumption, Continued

Whether retirement age assumption is reasonable

Determining whether the retirement age assumption is reasonable can be tricky. Remember that the retirement age as an actuarial assumption is not necessarily the same age as the Normal Retirement Age of the plan.

The assumed retirement age is the age at which the Actuary feels retirement is most likely to occur based on the statistics for the plan (if available) or the industry. The actuarial retirement age may be earlier or later than the Normal Retirement Age stated in the Plan.

Generally, you may want to question the assumption if the assumed retirement age is earlier than age 50 or later than age 70. Remember that the type of industry of the sponsoring employer will play an important role in determining the reasonableness of this assumption.

For example you would probably question an assumed retirement age of 45 in most plans. However for plans covering professional athletes or models, the use of age 45 can probably be statistically supported. If you have a question, ask our Actuary.

Turnover Assumption

Turnover

Turnover: In any business, there are certain individuals who will terminate employment. Turnover occurs when an employee terminates employment, and such termination is not due to death or retirement. Turnover applies only to the pre-retirement period.

Keep in mind two simple facts:

1. The smaller the plan is, the less likely it is to have a turnover assumption.
2. The faster the vesting schedule, the less forfeitures there are and the lower the “turnover”, even though there are a fair number of terminations.

There may be a single turn over assumption or there may be a turn over scale. Turnover scales reflect the number of employees who are expected to terminate at each age. The scale may also vary based on length of employment. In some instances the turnover scale and the mortality scales are combined.

The effect of a turnover scale on costs is the same as a mortality scale. The actuarial gain from turnover is the excess of the actual funds forfeited over the expected forfeitures.

Example— illustrating turnover scale

A Turnover scale indicates the following:

<i>Age</i>	<i>Scale</i>	<i>Age</i>	<i>Scale</i>
20	5 %	40	1.5 %
25	5 %	45	.75 %
30	3.75 %	50	0 %
35	2.5%	55	0 %

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Turnover Assumption, Continued

Analyzing the above turnover scale

What this scale means is that the employer estimates that 5 % of the participants will terminate employment (without vesting before reaching age 21). At age 25, the 5% remains the same. Thus, the employer estimates that 5% of the workforce will leave each year from ages 20-29. The employer estimates that the turnover will drop to 3.75% from ages 30-34 etc.

Another illustration of turnover

If you started out with 100 participants all of whom were age 20 only about 60 of them would still be employed at age 30. From the following chart below, each year, from age 20 to age 30, 5 % of the remaining employees are estimated to leave.

Age	Total Employed	% estimated to Leave	Estimated # of employees left
20	100	5	95
21	95	5	90
22	90	5	86
23	86	4	81
24	81	4	77
25	77	4	74
26	74	4	70
27	70	3	66
28	66	3	63
29	63	3	60
30	60	3	57

Actual turnover may differ from estimates

When actual turnover is greater than what was predicted either a gain or a loss could occur, depending on the method.

Audit Hint: Read the plan's vesting schedule. A plan providing full & immediate vesting should not have a turn over scale.

Asset Valuation methods, and other assumptions

Asset Valuation Methods Remember, the concept behind defined benefit plans is to fund for a benefit at Normal Retirement Age so that the plan would have the correct amount for a participant at retirement. Thus, the value of the plan's assets plays an important role in determining the costs to the employer. If the plan's assets grow well, the employer's yearly costs will be less. If they don't grow well, then the employer's contributions will have to cover the short fall in order to properly fund for the participants' retirement benefits.

In determining the asset value, you would think that the actual market value of the assets would be used for determining costs. However, the actual market value is not used.

Specific requirements under 412(c)(2) and 1.412(c)(2)

IRC Section 412(c)(2) permits the use of reasonable actuarial values that take into account market value. In fact Treasury Regulations Section 1.412(c)(2) sets forth the following requirements for reasonable actuarial asset valuations:

1. The method must be applied on a consistent basis from valuation to valuation.
2. The method must be stated in the Actuarial Report.
3. The method must take into account the market value or the average market value of the assets.
4. The method must not have a bias to be above or below the market or average value of the assets.

Thus, the method cannot consistently result in a valuation that is above (below) fair market value.

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Asset Valuation methods, and other assumptions, Continued

Requirement that the value must be within a certain corridor

The resulting value must not be less than or more than certain corridor limits:

1. The lower end of the limits are the lesser of :
 - 80 % of the Fair Market Value of the Assets, or
 - 85 % of Average Market Value if a Multiemployer Plan.
2. The upper limit is the greater of:
 - 120 % of the Fair Market Value of the Assets, or
 - 115 % of Average Market Value if a Multiemployer Plan.

The Average Market Value is determined by making an annual valuation of assets. These current fair market values and their adjustments are then added together and averaged for the period chosen for averaging. The length of the period cannot exceed 5 years.

The adjustments are the additions (reductions) for a prior valuation date that were added (subtracted) to (from) the fair market value of the plan assets since that prior date, excluding appreciation (depreciation) of the assets.

Defining additions and subtractions that would adjust the current market value

Additions would include:

- any contribution to the plan;
- any interest or dividend paid to the plan; and
- any asset not taken into account in a prior valuation of assets, but taken into account for the current year.

Reductions would include:

- any benefit paid from plan assets;
- any expense paid from plan assets; and
- any asset taken into account in a prior valuation of assets but not taken into account for the current year in computing the fair market value of plan assets.

As you already know, assets do not grow smoothly. In the late 1990's, we had strong markets where asset values grew tremendously. In the past two years those same investments have depreciated tremendously, with some investors losing half the value of their investments. Actuaries use the asset valuation method to smooth out these spikes and dips in asset values. The result is a more realistic approach to costs.

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Asset Valuation methods, and other assumptions, Continued

Other assumptions

In the above section we have discussed some of the more common types of assumptions that an Agent may run into. There are many other assumptions, or variations of assumptions that you might also see. If you have a question as to their validity, contact your Actuary.

Remember all actuarial assumptions will eventually produce either a gain or a loss because these assumptions will not exactly match the actual plan experience. This in turn will affect annual costs.

Changes in actuarial assumptions and in plan benefits will also affect costs. These types of changes are not technically gains or losses from assumptions.

Continued on next page

Asset Valuation methods, and other assumptions, Continued**Impact of
Actuarial
Gains/losses on
costs**

When there is an actuarial gain you are in effect indicating that your prior costs were overstated. Where there is a gain, costs in the following years will be less as the effect of the gain is recognized under the funding method. When there is an actuarial loss you are in effect indicating that your prior costs were understated. Where there is a loss, costs in the following years will be more. If the assumptions are reasonable then, over time, the gains and losses will more or less offset each other so that there will not be an unusually long term large gain (or loss). Unusual long-term gains (losses) will bias costs.

For example, suppose you had a plan that used set of assumptions that produced large losses year after year with no offsetting gains. As a result of this pattern, the contributions calculated to be made each year would be less than if reasonable assumptions had been used. If the plan sponsor were to make only the minimum required contribution each year, then eventually the assets under the plan could be insufficient to pay even the benefits guaranteed under the Plan. The potential would be that, in the event of a termination of the plan, PBGC would be required to pick up the liability.

In the alternative, using a set of assumptions that continually produce large actuarial gains each year would result in deductions that are larger than if reasonable assumptions are used. Eventually the assets could far exceed the benefits under the plan. This would make the sponsor/plan attractive to corporate raiders where such excesses have been known to sometimes disappear.

Where there are excessive actuarial gains (losses) due to unreasonable assumptions the deductible limits or the Minimum Funding might have to be re-determined by an Actuary

Funding Methods

Spread gain methods

Introduction

Now that we have learned what causes actuarial gains and losses, let's look at the various funding methods and how these methods handle these gains and losses. All funding methods can be broken into two main categories:

- Spread Gain Funding Method or
 - Immediate Gain Funding Method.
-

Spread Gain Methods

Under a Spread Gain Method, the experience gains and losses aren't calculated separately. Instead, these gains and losses are spread out over future Normal Costs as part of the regular operation of the funding method.

In a spread gain valuation method, you are looking for a pattern of change in the plan's Normal Cost from year to year. If the group of participants covered by the plan stay the same and there are no changes in the plan's benefit, the changes in the Normal Costs from year to year will be due to actuarial gains or losses.

- If the Normal Costs decrease from year to year, there is a pattern of gains.
 - If the Normal Costs increase from year to year there is a pattern of losses.
-

Categories of spread gain methods

The Spread Gain Method is further broken down into two categories;

1. Frozen Spread Gain Methods, which include:
 - Frozen Initial Liability Method, and
 - Attained Age Normal Method.
 2. Aggregate Spread Gain Methods, which include:
 - Aggregate Cost Method, and
 - Individual Aggregate Cost Method.
-

Continued on next page

Spread gain methods, Continued

Frozen Initial Liability Method

Frozen Initial Liability Method (FIL)-introduction

Under this method, the Unfunded Accrued Liability when the plan is established is calculated under the Entry Age Normal method and then frozen.

For the first year the Normal Cost is equal to:

the sum of the present value of the benefits at the participant's attained age
Minus the sum of the Entry Age Normal Accrued Liability
The sum of the temporary annuities from attained age to retirement age

Thus, each participant's Normal Cost is calculated as a level amount (or a level percentage of pay) from his entry date to his retirement date. His entry date is an assumption made by the Actuary based on the characteristics of the employee and the terms of the plan. The entry date is not his actual date of plan participation, but a date chosen to represent the entry date of all participants.

The present value of the benefits at the participant's attained age is the amount of money that an employer would put into the plan, which would earn enough interest to fund the benefit for the participant at age 65.

The sum of temporary annuities from attained age to retirement age is used to determine the level payments that the employer would have to make in order to fund the benefit for the participant at age 65.

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Frozen Initial Liability Method, Continued**Defining
Unfunded
liability**

The Unfunded Liability is:

1. The Accrued Liability (or prior year Unfunded Liability], with interest to the end of the year, plus
2. The Normal Cost with interest to the end of the year, minus
3. Contributions with interest to the end of the year.

Each year the Unfunded Liability from the prior year is brought forward, using the above formula. In doing this, the initial liability is spread over the remaining Normal Costs.

Since the Normal Cost is calculated with reference to the assets of the plan, gains and losses are not separately calculated. Instead gains (losses) from year to year will cause fluctuations in the Normal Costs.

After the first year, this method does not directly calculate the Accrued Liability. The Full Funding Limitation, which is required to determine the maximum deductible contribution, requires the calculation of the Accrued Liability each year. For Spread Gain Methods the Full Funding Limitation is calculated using the Accrued Liability based on the Entry Age Normal funding method. If you don't see this calculation, ask for it.

**Maximum
deductible
amounts**

Since gains and losses are spread over the future Normal Costs you should not see separate amortization basis for gains and losses. The maximum deductible contribution is Normal Cost plus a 10 year amortization of the original Accrued Liability.

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Frozen Initial Liability Method, Continued

Plan amendments

Where benefits are increased by Plan amendment there are two acceptable alternative ways to treat the increased liability.

Separate Base Alternative: Under this alternative, the sum of the present value of benefits at the participants attained age is calculated using the new benefit formula. The change in the Accrued Liability caused by the increased benefit is calculated under the Entry Age Normal method and is added to the Unfunded Liability to calculate Normal Cost. The amount of the Past Service increase becomes an amortization base which is amortized over ten years for maximum deductibility purposes.

Spread Cost Method: Under this alternative, the sum of the present value of benefits at the participants attained age is calculated using the new benefit formula and becomes part of the Normal Cost. The Unfunded Liability is not adjusted so as a result, the entire change is reflected in the future Normal Costs.

Attained Age Normal Method

Attained age normal (AAN)- introduction— (very rarely used)

The Attained Age Normal is another frozen method. This method is very rarely used. In the first year, the accrued liability or past service liability is calculated based on the Unit Credit Funding Method. After the first year the calculations are the same as under FIL.

Aggregate Cost Method (AGG)

Introduction

Under the Aggregate funding method, all costs are funded as the Normal Cost of the plan and gains and losses are spread over the future Normal Costs.

For the first Plan year the Normal Cost is calculated as of the valuation date as:

Present Value of Benefits
Temporary Annuity to Retirement Age

Continued on next page

Aggregate Cost Method (AGG), Continued

Formula when there is more than one participant

When you have more than one participant the formulas change slightly to:

$$\frac{\text{Sum of the Present Value of Benefits} - \text{Total Assets}}{\text{Average of Temporary Annuity from Attained Age to Retirement Age}}$$

The Average of Temporary Annuity from Attained Age to Retirement Age is simply:

$$\frac{\text{The Sum of Annuities}}{\text{Number of Participants}}$$

So the entire equation now looks like this:

$$\frac{\text{Sum of the Present Value of Benefits} - \text{Total Assets}}{\frac{\text{The Sum of Annuities}}{\text{Number of Participants}}}$$

This can then be rewritten as:

$$\frac{\text{Sum of the Present Value of Benefits} - \text{Total Assets}}{\text{The Sum of Annuities}} \times \# \text{ of Participants}$$

Normal cost accrual rate

When the formula above is written this way, the left-hand portion of the equation is called the Normal Cost Accrual Rate, which is the average rate of Normal Cost for the Plan.

To get the total Normal Cost you have to multiply the Accrual Rate times the number of plan participants.

For the non-valuation years, the Normal Cost is simply determined by multiplying the Normal Cost Accrual Rate by the number of participants.

This method does not directly calculate Accrued Liability. The Full Funding Limitation, which is required to determine the maximum deductible contribution, requires the calculation of the Accrued Liability each year. For Spread Gain Methods, the Full Funding Limitation is calculated using the Accrued Liability based on the Entry Age Normal funding method. If you don't see this calculation, ask for it.

Individual Aggregate Method (IA)

Description

Under the Individual Aggregate Method, Normal Cost is calculated in a similar manner to the Aggregate Method. The difference is that the Normal Cost is calculated separately for each participant and the Plan's Normal Cost is the sum of the individual Normal Costs.

Remember that part of the formula requires the subtraction of the plan's assets? In the Individual Aggregate Method, the assets are allocated to each of the participants in proportion to their Normal Cost plus their allocated assets for the prior year.

**“Adjustment”
to assets for
funding and
deduction
purposes**

Before assets are allocated to individual participants certain adjustments are made:

1. For Minimum Funding calculations, the assets are adjusted by subtracting any Credit Balance in the Funding Standard Account or by adding any Funding Deficiency.
2. For maximum deduction calculations the assets are adjusted by subtracting any undeducted contributions.

Remember that this “allocation” of assets is just for determining funding. The assets are not actually allocated to a specific participant.

Immediate Gain Funding Methods

Introduction Unlike Spread Gain Methods, immediate gain funding methods separately calculate the actuarial gains and losses.

Under these methods:

1. Gains and losses are separately calculated and separately amortized (or charged) over a fixed number of years, as required under IRC sections 404 (for deduction purposes) and 412 (for funding purposes).
 2. Gains and losses do not generally affect the Plan's Normal Cost.
 3. An Accrued Liability is calculated, independent of the plan's assets.
-

Individual Level Premium Method [ILP]

Introduction Like the Individual Aggregate Method the Individual Level Premium Method calculates Normal Costs separately for each participant. Unlike the Individual Aggregate Method assets are not allocated to the participants. The entire cost under ILP is the Normal Cost plus the amortization of the actuarial gains or losses. The gains and losses are calculated each year using the plan's Accrued Liability.

Description The Normal Cost for each participant is calculated as of his or her first year in the plan. This Normal Cost will remain the same for all subsequent years until there is a change in the expected retirement benefit. This is similar to purchasing an annuity from an insurance company. You tell them how much you want to receive at retirement and they tell you how much the monthly premium will be based on how much is needed at retirement and how long you have to go to reach retirement. The premiums under these contracts stay the same (or level) each month until you retire. If you subsequently want a larger benefit you have to purchase another annuity contract in addition to the first one. This principle is the same under the ILP method.

Continued on next page

Individual Level Premium Method [ILP], Continued

Formula for normal cost

Normal Cost for a participant is:

$$\frac{\text{Present Value of the Retirement Benefit at attained age}}{\text{Temporary Annuity from Attained Age to Retirement Age}}$$

Where there is more than one participant you simply add each of their Normal Costs together.

Amortization Bases

In Immediate Gain Methods we set up amortization bases rather than changing the Normal Costs. To determine the amount to be amortized, look to the assets and compare the expected performance (earnings/losses) with the actual performance (or earnings/losses).

Accrued liability base

The Accrued Liability of a plan is the accumulation of the prior Normal Costs with interest.

Unfunded Accrued liability base

The Unfunded Accrued Liability is the Accrued Liability minus the assets.

Expected unfunded Accrued liability base

The Expected Unfunded Accrued Liability is the prior year Unfunded Accrued Liability with interest, Plus Normal Cost with interest, minus the contribution with interest.

Actual unfunded liability base

The Actual Unfunded Accrued Liability is the Accrued Liability (prior Normal Costs with interest) minus the assets.

Actuarial gain

The Actuarial Gain is the Expected Unfunded Accrued Liability minus the actual Unfunded Accrued Liability.

Entry Age Normal

Description

Under the Entry Age Normal funding method, the Normal Cost for each participant is calculated as a level amount (or a level percentage of pay) from his Entry Age to his expected Retirement Age. The “Entry Age” is an assumed age based on the employee and the terms of the plan. The “Entry Age” could be his age as of his date of hire. A more common one is the age at which he would have entered the plan had the plan been in effect. The plan’s definition of entry age must be reasonable..

Example

A plan has a one-year service requirement and a minimum age of 21. An employee was hired at age 19. When the plan is first put into effect he is age 40.

His entry age would be 21, since he would have completed a year of service by age 20.

If that same employee were hired at age 24, his entry age would be 25, the age after completing 1 year of service.

Suppose another individual is hired at age 45, his entry age would be 46. It would not be reasonable to assume age 25 for him even though it was reasonable for the first employee.

Determining entry age normal cost-- formula

Entry Age Normal Cost is equal to:

$$\frac{\text{Present Value of Benefits at Entry Age}}{\text{Temporary Annuity Factor from Entry Age to Retirement}}$$

For deduction purposes this Accrued Liability is amortized over 10 years, that is 10 level payments. Note, an accrued liability is created when the participant, age 40, is assumed to enter the plan at age 21. This additional liability becomes a separate amortization base.

Continued on next page

Entry Age Normal, Continued

**Bases created
in subsequent
years**

In the second (and subsequent) years a new base would be created in addition to the prior base. The amortized amount under the new base would be the difference between the Expected and Actual Unfunded Accrued Liabilities as of the next valuation date.

Each year a new amortization base will be added as there is either a gain or a loss. Eventually these can become cumbersome. As an alternative the Actuary can use a Fresh Start Alternative. Under the Fresh Start Alternative separate bases are not maintained. Instead the maximum deductible becomes the Normal Cost plus the 10 year amortization of the Actual Unfunded Accrued Liability for that year. There is no limit to the number of times a Fresh Start Alternative can be used.

Unit credit funding method

Description

The Unit Credit Funding Method bases its calculations on the benefit earned (accrued) at the beginning of the year and earned during the year. Under the Unit Credit Method, the Normal Cost is the present value of the benefit earned during the year.

What is different under the Unit Credit Method is that even though the accrued benefit stays the same each year, the Normal Cost will increase each year. This is due to the shortened period for accumulating the value at 65, not due to a change in assets.

The Accrued Liability under the Unit Credit Method is the Present Value of the Benefit Accrued to the participant's attained age.

Example

Assume the plan accrues a benefit equal to 1 % of compensation each year and that the participant earns \$30,000 a year every year (no salary change). The plan is started when the employee is age 40 but the plan credits past service from when you are first employed.

With this participant, the plan credits her with service since age 20. Finally, assume an Annuity Purchase Rate of 10 and interest of 5 %.

As of age 40 our participant's Accrued Benefit is \$6,000 ($\$30,000 \times 1\% \times 20$ years (40- 20)). At 65 or NRA, the benefit is worth \$60,000 ($\$6,000 \times 10$). At her attained age, the present value is \$17,718 ($\$60,000 \times (1.05^{-25})$ or $\$60,000/1.05^{25}$). This would be the Accrued Liability in the first year.

The calculation of the Unit Credit Gains (Losses) is exactly the same as under the Entry Age Normal Method.

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Unit credit funding method, Continued

Unit credit method used when plan has a career average formula etc.

The Unit Credit Method is used for plans that provide a benefit as:

- a career average formula (the sum of a stated percentage of compensation each year) or
- a fixed dollar amount per each year.

Plans with a formula that use final compensation or final average compensation should not use the Projected Unit Credit Method.

Additional points about method

Under this method you still calculate the accrued benefit as of the beginning of the year and the accrual during the year, but based on an assumed benefit at age 65. This starts to get fairly complicated since there is a pro-ration of the benefits accrued based on service up to the beginning of the year and accrued during the year. You should contact your Actuary if you have this situation.

Impact of insurance on funding

Introduction

The Cash Values of Insurance policies can be used for part of the plan's funding. When insurance is used they must be taken into account in the calculations of Normal Costs. There are two common methods for including insurance, the Envelope Method and the Split Funded Method.

Envelope method

Under this method, the cash value of the insurance is added to the value of the assets. The funding calculations are based on the entire benefit under the plan (including the death benefit) and the adjusted assets.

The maximum deductible contribution is the sum of:

- the calculated maximum deductible contribution for the plan plus
- a term insurance cost for the insurance benefits provided by the policy.

These costs may be, but do not have to be, calculated using the PS 58 costs.

Continued on next page

Impact of insurance on funding, Continued

Split funded method

This method can only be used if the cash value of the insurance can definitely be projected to Retirement Age (i.e.: ordinary whole life policy). If the policies have variable cash values, another method must be used.

In addition this method should not be used with the Unit Credit Method.

Under this method, the projected cash value is subtracted from the value of benefits at Retirement Age. The funding calculations are based on the net benefit at retirement.

The maximum deductible contribution is calculated based on net benefit's Normal Cost plus the total insurance premium (not just the term costs).

Actuarial Aspects of Examination

Annual Valuation

Introduction

IRC 412(c)(9) requires that a defined benefit plan have an annual valuation, in which the plan's liability and experience gains and losses are determined. Under IRC section 6059, the plan administrator (IRC 414(g)) for each defined benefit plan subject to Minimum Funding (IRC section 412) must file an Actuarial Report, prepared and signed by an Enrolled Actuary (under IRC section 7701(a)(35)). The report is to be filed for the first plan year in which IRC section 412 applies and each third plan year thereafter.

Continued on next page

Annual Valuation, Continued

The annual valuation must include certain information

The report must include:

1. A description of the funding method
 2. The actuarial assumptions used to determine costs under the plan.
 3. A certification as to the contribution necessary to reduce the accumulated Funding Deficiency to zero.
 4. A statement that:
 - A. To the best of his knowledge the report is complete and accurate, and
 - B. That the requirements of section 412(c) (relating to reasonable actuarial assumptions) have been complied with.
 5. Such other information as may be necessary to fully and fairly disclose the actuarial position of the plan.
 6. Such other information regarding the plan as the Secretary may by regulations require.
-

Schedule B

Introduction

Income Tax Reg. 301.6059-1(a) requires that the plan administrator must annually file on Form 5500, Schedule B, an Actuarial Report certified by an Enrolled Actuary for any defined benefit plan subject to the Minimum Funding Standards of IRC 412.

An actuarial valuation is a snapshot of the assets and liabilities of the plan on the valuation date. The Actuary values the projected plan benefits and then, after consideration of the current plan's current assets and funding method, expresses the result as an annual cost.

Annual Valuation under section 412(c)(9) and Schedule B are different

Remember that we are talking about two different reports, the annual valuation required by section 412(c)(9) and the Schedule B under Form 5500. These reports should be compared to each other to make sure they are the same.

Continued on next page

Schedule B, Continued**Reviewing
schedule B,
funding
method,
including
changes**

1. Check to see if the **funding method** in the actuarial valuation is the same as the one on the Schedule B.
2. Check prior year Valuation and the Schedule B to see if there is a change in funding method. Any change in the Funding Method must be noted on the Schedule B.

Remember that “funding method” refers not only to the actual Funding Method used but also as to:

- How the Actuarial Value of Assets is determined, and
- How the Valuation Date is used.

Revenue Procedure 2000-40 provides for automatic approval of certain changes if the required conditions are met. Review any changes for compliance with the Revenue Procedure.

If you discover any unreported changes or if the reported changes do not comply with the Revenue Procedure and were not approved by Headquarters, contact your Actuary.

**Reviewing
Schedule B-
valuation**

3. Make sure the Valuation Date is consistent from year to year. A change in the Valuation Date is a change in the funding method.
4. Verify the fair market value of the assets on the valuation date. This should not include contributions due for the current plan year.
5. Also verify that the actuarial value of the assets are within the required corridors of the fair market value, as discussed in **Asset Valuation Methods** of item **VI** above (Income Tax Regulations 1.412(c)(2)-1(b)(6)). Remember that the method for determining the Actuarial Value of Assets must be specified in the Actuarial Report.

Continued on next page

Schedule B, Continued**Other items to verify**

-
6. Verify the source of entries in Funding Standard Account.

Check the prior year Schedule B to see if the Credit Balance, Funding Deficiencies and Amortization Bases are carried forward properly.

7. Verify the dates and amounts of contributions and of payments. Are they the same dates and amounts as are on the Schedule B?
-

Deduction aspects of examination

Introduction

Audit steps-

As part of the examination of a defined benefit plan, the Agent has to verify that the contributions do not exceed the limitations under IRC 404.

When determining the limitation:

- verify that the contributions are timely made per IRC 404(a)(6),
- check the Actuarial Report to see how the Actuary determined the deductible limit, and
- determine under which section of IRC 404, the deduction was taken.

The Employer is allowed to take the deduction under the section that will give the largest amount.

General rule for deductibility

To be deductible under IRC section 404, the contribution must first be deductible under IRC 162 as an ordinary and necessary business expense.

The deduction must be based on compensation paid or accrued for services actually rendered or payment for future service.

Deductions based on plan benefits and assumptions

In the case of a defined benefit plan, an Actuarial Valuation is completed by the Enrolled Actuary to determine, among other things, the benefits, liabilities, Minimum Funding requirements, and the maximum tax-deductible contribution for the Plan. The maximum deduction is based on the benefits provided by the plan and the assumptions selected by the Actuary to determine costs.

Deductible Limit under IRC 404

Introduction

For a defined benefit plan the deduction is determined under IRC sections 404(a)(1)(A)(i), (ii), or (iii), which ever is greater. The maximum cannot, however, exceed the full funding limit in IRC section 412(c)(7).

**Deduction
under IRC
Section
404(a)(1)(A)(i)**

The deduction under IRC 404(a)(1)(i) is the amount that is needed to satisfy Minimum Funding under IRC section 412(a). The “minimum funding” is the amount needed to avoid an outstanding Funding Deficiency in the Funding Standard Account.

Funding standard account-used in deductions

Introduction The Funding Standard Account is an account established and maintained by an Employer to which there are certain items “credited” or “charged” (IRC 412(b)(1)). The “account” exists on paper only.

If the total charges exceed the total credits, a Funding Deficiency exists and IRC section 404(a)(1)(A)(i) allows the Employer to contribute enough to the plan to eliminate the deficiency.

**Charges—
normal cost
and unfunded
past liability**

1. The Normal Cost of the plan for the plan year.
2. The amounts necessary to amortize in equal annual installments (until fully amortized):
 - a. For plans in existence on January 1, 1974, the Unfunded Past Service Liability under the plan on the first day of the first plan year to which IRC section 412 applies (PYB in 1976), over a period of 40 plan years,
 - b. For which come into existence after January 1, 1974, the Unfunded Past Service Liability under the plan on the first day of the first plan year to which IRC section 412 applies (Later of PYB in 1976 or date plan is adopted), over a period of 30 plan years,
 - c. Separately, with respect to each plan year, the net increase in Unfunded Past Service Liability under the plan arising from plan amendments (which increased benefits) adopted in such year, over a period of 30 plan years,

**Charges to
account—losses
and changes in
actuarial
assumptions**

- d. Separately, with respect to each plan year, the net experience loss (Actuarial Loss discussed above) under the plan, over a period of 5 plan years (15 plan years in the case of a Multiemployer plan), and
- e. Separately, with respect to each plan year, the net loss resulting from changes in actuarial assumptions used under the plan, over a period of 10 plan years (30 plan years in the case of a Multiemployer plan),

Continued on next page

Funding standard account-used in deductions, Continued

Charges to account—amortizing waiver of funding deficiency

- f. The amount necessary to amortize each waived Funding Deficiency for each prior plan year in equal annual installments (until fully amortized) over a period of 5 plan years (15 plan years in the case of a Multiemployer plan),
- g. The amount necessary to amortize in equal annual installments (until fully amortized) over a period of 5 plan years any amount credited to the Funding Standard Account under a change to the Alternative Minimum Funding Standard Account.
- h. The amount necessary to amortize in equal annual installments (until fully amortized) over a period of 20 years the contributions which would be required to be made under the plan but for the provisions of subsection 412(c)(7)(A)(i)(I). (Note: For plan years beginning before January 1, 2004, the applicable percentage of Current Liability (including the expected increase in Current Liability due to benefits accruing during the plan year)).

Credits-contributions, unfunded past liability and net experience gain

For a plan year, credits to the Funding Standard Account include:

1. The amount considered contributed by the employer to or under the plan for the plan year.
2. The amount necessary to amortize in equal annual installments (until fully amortized)--
 - a. Separately, with respect to each plan year, the net decrease (if any) in Unfunded Past Service Liability under the plan arising from plan amendments adopted in such year, over a period of 30 plan years,
 - b. Separately, with respect to each plan year, the net experience gain (if any) under the plan, over a period of 5 plan years (15 plan years in the case of a Multiemployer plan), and

Continued on next page

Funding standard account-used in deductions, Continued

**Credit, gain in
actuarial
assumptions
etc.**

-
- c. Separately, with respect to each plan year, the net gain (if any) resulting from changes in actuarial assumptions used under the plan, over a period of 10 plan years (30 plan years in the case of a Multiemployer plan),
 - d. The amount of the waived Funding Deficiency for the plan year, and
 - e. In the case of a plan year for which the accumulated Funding Deficiency is determined under the Funding Standard Account, if:

such plan year follows a plan year for which such deficiency was determined under the Alternative Minimum Funding Standard,

the excess (if any) of any debit balance in the Funding Standard Account (determined without regard to this subparagraph) over any debit balance in the Alternative Minimum Funding Standard Account.

Example 1 illustrating deduction of minimum funding amount under section 404(a)(1)(i) and funding standard account

Facts from previous example

As stated in the previous example, assume the plan accrues a benefit equal to 1 % of compensation each year and that the participant earns \$30,000 a year every year (no salary change).

The plan is started when the employee is age 40 but the plan credits past service from when you are first employed. Thus, with this participant, the plan credits her with service since age 20. Finally, assume an Annuity Purchase Rate of 10 and interest of 5 %.

As of age 40 our participant's Accrued Benefit is \$6,000 ($\$30,000 \times 1\% \times 20$ years (40- 20)). At 65 or NRA, the benefit is worth \$60,000 ($\$6,000 \times 10$). At her attained age, the present value is \$17,718 ($\$60,000 \times (1.05^{-25})$ or $\$60,000/1.05^{25}$). This would be the Accrued Liability in the first year.

Thus, as of age 40, her Accrued benefit was \$6,000 ($20\% \times \$30,000$), which, at 65, was worth \$60,000 and at his attained age had a present value is \$17,718.

Past service liability explained

The \$17,718 is the Past Service Liability in the plan's first year, because the plan granted the participant 20 years of past service that becomes a liability of the plan.

Since this is the first year of operation, there are no assets so the past service liability that is not funded, or the Unfunded Past Service Liability is the full amount or \$17,718.

Amortize the past service liability

For the purposes IRC section 404(a)(1)(A)(i) (and 412), this Unfunded Past Service Liability must be amortized over 30 years. Since the Temporary Annuity Factor is 16.1411 (PV: .05,30,-1, ,1) the amortized amount is \$1,098 ($\$17,718/16.1411$) which the employer must fund for.

Normal cost

The Normal Cost under the Unit Credit is the Present Value of the benefit accrued during the year, in this case, the first year under the plan. Thus, the benefit accrued is \$300 ($\$30,000 \times 1\%$). At age 65 that is worth \$3,000 ($\300×10) and at age 40 has a present value of \$886 ($\$3,000 \times (1.05^{-25})$).

Continued on next page

Example 1 illustrating deduction of minimum funding amount under section 404(a)(1)(i) and funding standard account,

Continued

Funding standard account—add the normal cost, amortized past service cost and interest accrued

The Funding Standard Account would look like this:

Charges:

1. Normal Cost:	\$886
2. Amortized Past Service:	<u>1,098</u>
Subtotal:	\$1,984
Total charges, with interest	2,083

Credits: (contribution not yet made) \$0

Funding Deficiency: \$2,083

Deductible amount under 404(a)(1)(i) is the amount of the funding deficiency

So under IRC 404(a)(1)(i) the amount which would be deductible is \$2,083.

If the contribution is made during the first year then interest from the date contributed till the end of the Plan Year would be counted as a credit.

There is a special rule under Income Tax Regulations section 1.404(a)-14(e)(1) that provides that:

1. If amounts required under IRC 412 were paid for the preceding year, and
2. They were not deducted in that preceding year solely because they were not timely paid under IRC section 404 (a)(6),

they are *includible contributions* and are deductible under IRC 404(a)(1)(A)(i) for the current year.

Example 2, illustrating timing of contributions

Example--facts Assume the Employer's tax year and plan years are both the calendar year. Also assume that:

- The amount needed to satisfy IRC 412 for the 2000 plan year was \$10,000, and
- for the 2001 plan year, such amount was \$11,000.

The following payments were made to the plan:

Table of Contributions

<i>Date Made</i>	<i>Amount Contributed</i>	<i>Appears on Schedule B for PYE:</i>
3/14/01	\$8,000	2000
9/15/01	2,000	2000
3/10/02	11,000	2001

When employer filed return and made a contribution

The Employer timely filed an 1120 for the 2000 and 2001 tax years. For the 2000 plan year, the amount that was needed to satisfy IRC 412 is \$10,000 and is due within 8½ months after the end of the plan year.

However, only \$8,000 was deductible for the 2000 tax year because \$2,000 was not timely paid for IRC 404 purposes.

For the 2001 tax year, the Employer can deduct the \$11,000 (the amount needed to satisfy Minimum Funding for the 2001 plan year) plus the \$2,000 that was needed to satisfy Minimum Funding in the prior year.

Deduction under IRC 404(a)(1)(A)(ii)

Description

The deduction under IRC section 404(a)(1)(A)(ii) is the amount necessary to provide with respect to all of the employees under the trust:

- the remaining unfunded cost of their past and current service credits distributed as a level amount, or a level percentage of compensation-
 - over the remaining future service of each such employee.
-

If the remaining unfunded cost with respect to 3 individuals is more than 50% of total

If the remaining unfunded cost with respect to any 3 individuals is more than 50 percent of the total remaining unfunded cost, the amount of such unfunded cost attributable to those three individuals shall be distributed over a period of at least 5 taxable years,

In other words, the present value of the projected benefits for each participant is determined for the year and the assets are subtracted from that amount.

The remaining unfunded cost is then projected as a level cost (or percentage of compensation) over the participant's remaining service from attained age to retirement age. The only exception to the length of time (attained age to retirement age) that the costs must be leveled over is if the unfunded costs for 3 participants exceed 50 % of the same amount calculated for all participants.

In that case the costs for the those three participants must be allocated over a minimum of 5 years (each), even if they have less than 5 years to retirement.

Which methods use the a(ii) deduction

The Individual Level Premium and Aggregate Methods are the most likely to use clause (ii) for deduction purposes.

Luckily you rarely see this as the deduction. Check with the field Actuary if the Employer is claiming a deduction under this section.

Example illustrating the (a)(ii) deduction

Example illustrating the (a)(ii) deduction-facts

As stated in the previous example, assume the plan accrues a benefit equal to 1 % of compensation each year and that the participant earns \$30,000 a year every year (no salary change).

The plan is started when the employee is age 40 but the plan credits past service from when you are first employed. Thus, with this participant, the plan credits her with service since age 20, and grants the participant 20 years of past service credit. Finally, assume an Annuity Purchase Rate of 10 and interest of 5 %.

As of age 40 our participant's Accrued Benefit is \$6,000 ($\$30,000 \times 1\% \times 20$ years (40- 20)). At 65 or NRA, the benefit is worth \$60,000 ($\$6,000 \times 10$). At her attained age, the present value is \$17,718 ($\$60,000 \times (1.05^{-25})$ or $\$60,000/1.05^{25}$). This would be the Accrued Liability in the first year.

Thus, as of age 40, her Accrued benefit was \$6,000 ($20\% \times \$30,000$), which, at 65, was worth \$60,000 and at his attained age had a present value is \$17,718.

Calculating the total benefit and amortizing such benefit

As of age 40 the participant's Past and Current Benefit is \$13,500 ($\$30,000 \times 1\% \times (65-20)$), which is worth \$135,000 ($\$13,500 \times 10$) at age 65. The Present Value of that amount is \$39,866 ($\$135,00 \times 1.05^{-25}$). Since the participant has 25 to go to retirement (65-40) we don't have to worry about the 5 year rule.

The Temporary Annuity Factor for the 25 years is 14.7986(PV: .05,25, -1, ,1), so the level amortization of the \$39,866 would be \$2,694 ($\$39,866/14.7986$) as of the beginning of the year or \$2,829 with interest to the end of the Plan Year.

Thus, under IRC section 404(a)(1)(A)(ii) the deduction would be \$2,829.

Deduction under section 404(a)(1)(A)(iii)

Description

The deduction under IRC section 404(a)(1)(A)(iii) is the amount equal to:

- the Plan's Normal Cost (determined under one of the methods noted above) plus,
- an amount necessary to amortize the unfunded costs attributable to such credits in equal annual payments (until fully amortized) over 10 years **if** past service or other supplementary pension or annuity credits are provided by the plan.

Note that the above amortization applies **only to any past service credits**, not to the separate amortization bases created each year under the immediate gain methods.

The past service credit occurs when the plan is initially established and benefit credit is given for service prior to the date the came into existence (as shown in the previous examples) or when the plan's benefit formula is increased and a past service credit occurs.

**Audit tips—
how long can
bases be
amortized**

The amount of time that bases can be amortized over differ depending on whether it is for IRC section 404 or 412 purposes. The Actuarial Valuation Report should contain information for IRC section 404 & 412 purposes including:

1. When it was first established,
2. Why it was established,
3. What the initial amortization period was,
4. How much is the amortization, and
5. How long is left on the base.

The specialist should review the Amortization bases by doing a test check.

Verify the items noted above from source documentation and check the base to see if it is properly amortized.

Refer to chapter 1 of the 1996 CPE for more in depth detail of the deduction under IRC 404(a)(1)(A)(iii).

Continued on next page

Deduction under section 404(a)(1)(A)(iii), Continued

Cannot claim a greater deduction in later years

Unlike clause (a)(i) (relating to Minimum Funding), the failure of the employer to contribute and deduct the maximum amount allowed under this section one year does not allow him to claim a greater deduction in a subsequent year. (Income Tax Reg. section 1.404(a)-14(h)(7).

Example illustrating (a)(iii)

Facts of example

As stated in the previous example, assume the plan accrues a benefit equal to 1 % of compensation each year and that the participant earns \$30,000 a year every year (no salary change).

The plan is started when the employee is age 40 but the plan credits past service from when you are first employed. Thus, with this participant, the plan credits her with service since age 20, and grants the participant 20 years of past service credit. Finally, assume an Annuity Purchase Rate of 10 and interest of 5 %.

As of age 40 our participant's Accrued Benefit is \$6,000 ($\$30,000 \times 1\% \times 20$ years (40- 20)). At 65 or NRA, the benefit is worth \$60,000 ($\$6,000 \times 10$). At her attained age, the present value is \$17,718 ($\$60,000 \times (1.05^{-25})$ or $\$60,000/1.05^{25}$). This would be the Accrued Liability in the first year.

Thus, as of age 40, her Accrued benefit was \$6,000 (20% x \$30,000), which, at 65, was worth \$60,000 and at her attained age had a present value is \$17,718.

In addition, Normal Cost for the year was calculated to be \$886.

Deduction calculation

Since it is the first year there are no assets so the Unfunded Past Service Liability is \$17,718, which has to be amortized **over 10 years**. The Temporary Annuity Factor is 8.1078 (PV: .05,10, -1, ,1) so the 10 year amortization is **\$2,185** ($\$17,718/8.1078$).

The sum of the Normal Cost (\$886) plus the 10 year amortization is \$3,071 and, with interest to the end of the year \$3,225. So, under IRC section 404(a)(1)(A)(iii) the deduction would be \$3,225.

Comparison of deductions under (a)(1)(i)-(iii) and audit tips

Comparison of last three examples

Now look back at last three examples. Using the same facts we can up with three different deductible amounts as shown in the table below.

If you were the Employer what would you contribute and claim? If you wanted to maximize your deduction in the year, you would pay the \$3,071. If money were tight, you'd pay only the \$2,083.

<i>Section:</i>	<i>Deductible</i>
404(a)(1)(A)(i)	\$2,083
404(a)(1)(A)(ii)	2,829
404(a)(1)(A)(iii)	3,071

Points to remember

1. The fact that the Employer used one subsection to claim a deduction does not lock him into that same section in any subsequent year. He could use IRC section 404(a)(1)(A)(i) one year and IRC section 404(a)(1)(A)(iii) the next.
2. There is no penalty if the Employer contributes and deducts less than the maximums he could have claimed under IRC sections 404(a)(1)(A)(ii) or 404(a)(1)(A)(iii), as long as he contributes the Minimum Funding amount.

Audit Tip

Actuaries will generally send a letter to the Employer or Plan Administrator, either as a cover to the Actuarial Valuation or to the Schedule B, in which they will state what the Minimum Funding, maximum deductible and Full Funding amounts are.

You can verify these amounts by referencing the Actuarial Report.

Once verified, if the contribution and the deduction exceed the Minimum Funding but do not exceed the maximum deductible or Full Funding limits, the deduction is good, unless you encounter other issues such as asset valuations.

Section 404 and 415(b)

**Section 404(j)—
cannot deduct
amounts in
excess of 415**

IRC section 404(j) provides that any benefits in excess of any IRC section 415 limitation shall not be taken into account for the purposes of determining any deduction allowed under IRC section 404(a)(1).

IRC section 404(j)(2) provides that, for purposes of IRC section 404(a)(1)(A)(i), (ii) or (iii) and in computing the Full Funding Limitation, the automatic cost of living adjustments under section 415(d)(1) cannot be taken into account prior to the year in which the adjustment first takes effect.

**Other
limitations that
415 imposes on
404—the 10
year Phase in.**

While it is obvious that benefits may not be paid or accrued that are in excess of the limitations of IRC section 415(b) (lessor of \$160,000 (in 2002) or 100 % of Average Compensation), there are other limitations which are not quite as obvious.

IRC section 415(b)(5) provides that the dollar limitation is reduced for participants with less than 10 years of participation.

The dollar maximum is required to be reduced pro-rata for each year of participation less than 10. This is called the initial ten year phase in.

**Example of
phase in.**

Assume that the section 415(b)(1)(A) dollar limitation in effect for a given year is \$90,000. In the case of a participant who has 3 years of participation, the initial ten-year phase-in limitation for such participant would be \$90,000 times 3/10, or \$27,000.

The funding method could only take into account \$27,000, even though his actual Projected Benefit is \$90,000.

**Phase in applies
to other
requirements**

IRC section 415(b)(5)(B) also provides that this “10 year phase in” also applies to the compensation limitation (100% of 3 year average compensation) and the special \$10,000 benefit limitation (no defined contribution plan) for less than 10 years of service with the employer.

Finally, IRC section 415(b)(5)(D) provides that the reduction for less than 10 years of participation (to the \$90,000 limit only) applies separately to each change in benefit structure of a plan.

Change in benefit structure

Change in benefit structure defined

A change in the benefit structure of the plan generally includes any change increasing benefits subject to the limitation of section 415.

A change is one that increases benefits if either:

- the change has the effect of immediately increasing a participant's accrued benefit, or
- greater benefits accrue after the change than would have accrued had the change not been made.

Examples of such changes include changes in the plan's benefit formula, rate(s) of accrual, definition of compensation, and definition of years of participation.

However, a plan will not be considered to have a change in benefit structure merely because a participant's rate of accrual under the plan formula increases with increasing years of service or participation.

Example illustrating change in benefit structure

A plan as original adopted provides for accruals of 2 % of each year's compensation. The plan is amended to increase future accruals to 3 % percent of compensation. The plan will be considered to have a change in benefit structure effective with that increase.

Continued on next page

Change in benefit structure, Continued

Change in benefit structure—effective date of regulations

Any change to the benefit structure **adopted and made effective** prior to the issuance of regulations is not be subject to the change in benefit structure rules.

However, any changes in the benefit structure **effective after regulations are issued** are subject to the rules, even if the change was adopted prior to the issuance of regulations (Q&A-7 of Notice 87-21).

Thus, there can be more than one ten year phase in of the limitations:

The initial ten-year phase-in limitation applies to a participant's total accrued benefit in the plan when he first becomes a participant.

If there is a change in the benefit structure (i.e.: a plan amendment that increases benefits) that increases the participant's benefits under the plan, then benefits attributable to the change are subject to a separate ten-year phase-in limitation that operates independently of the initial ten-year phase-in limitation.

A new ten year phase in applies each time there is a change in the benefit structure.

Defining the additional benefits with a change in benefit structure

For any participant as of any date, benefits attributable to the change in benefit structure equal:

1. The participant's accrued benefit under the plan (as amended) on that date, less
 2. The benefits that the participant: would have accrued on that date had the formula not been changed.
-

Continued on next page

Change in benefit structure, Continued**Calculating the additional benefits**

Steps to determine the benefits attributable to a change in benefit structure:

1. First determine the participant's accrued benefit under the plan (without regard to the limitation applicable to the change in benefit structure being tested).
2. Then determine the benefit that the participant would have accrued (subject to any applicable section 415(b)(5) phase-in limitations) as of such date had the formula in effect under the plan immediately prior to the change in benefit structure remained in effect through such date.
3. The benefit attributable to the change in benefit structure is determined by subtracting the amount determined in step 2 from the amount determined in step 1. This benefit may not exceed the ten-year phase-in limitation for the change in benefit structure.

10 year phase in with the change

The ten-year phase-in limitation for a change in benefit structure is equal to the applicable limitation in effect for such year times a the following fraction

“Years of Plan Participation from first day of the plan year in which the benefit is effective” divided by 10.

Note that Years of Participation include Partial Years, but does not include the year in which it became effective unless the amendment making the change is adopted no later than 21/2 months after the end of the plan year in which it becomes effective.

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Change in benefit structure, Continued**Multiple changes to the benefit structure**

When there is more than one change in benefit structure within a ten year period, the phase in rules apply to each separate change in benefit structure. The benefit attributable to a change in benefit structure includes benefits attributable to such change and any subsequent change.

Thus, as of a given year, the benefit attributable to a change in benefit structure equals:

1. The participant's benefit under the plan for such year (determined subject to phase-in limitations applicable to previous changes in benefit structures), less
2. The benefit that the participant would have accrued (subject to any applicable phase-in limitations) as of such date had the formula remained unchanged.

Effect of the 10 year phase in limitation

The effect of the ten-year phase-in limitations is that as of any given year, a participant's accrued benefit under the plan in such year may not exceed the lesser of:

1. The initial ten-year phase-in limitation, and
2. The smallest of the sums, determined separately for each change in benefit structure effective as of the current year or any of the preceding nine years, of:
 - A. The ten-year phase-in limitation for such change applicable to such participant in such year, and
 - B. The accrued benefit that the participant would have accrued (subject to any applicable section 415(b)(5) phase-in limitations) as of such year had the original formula remained in effect.

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Change in benefit structure, Continued**Impact of Phase in on funding**

An accrual that exceeds the lesser of 1/10 of the dollar limitation or of the compensation limitation may occur only if a participant has past years of participation (service) and only to the extent permitted by section 415(b)(5).

Under the Unit Credit Funding Method, the Normal Cost for a plan year is determined as the present value of benefits accruing under the method for the year. However, section 1.412(c)(3)-1(c)(5) of the regulations provides that under a reasonable funding method that allocates liabilities among different elements of past and future service, the allocation of liabilities must be reasonable.

So, if the actual benefit accrual for a participant in a plan using the Unit Credit Method exceeds 1/10 of the applicable 415 limitation, **the benefit accrual that may be taken into account in determining the Normal Cost** is limited to the 415 limitation.

The portion in excess of limitation is allocated to Past Service

The portion of the actual benefit accrual in excess of that limitation is due to the participant's past participation (service). To meet the requirement that the allocation of liabilities among different elements of past and future service must be reasonable, the portion must be allocated to Past Service for funding and deduction purposes. See Rev. Rul. 85-131, 1985-2 C.B. 138.

Result of Phase In—limits past service benefit

The result of the separate phase-in rule for each change in benefit structure is to limit not only the total accrual benefit resulting from each amendment but also the total benefit that may be provided for past-service. The result, under the Unit Credit Method, is to limit the amount of past service liability that may be provided at any point because the amount of the increase in past service benefits is limited by the phase-in limitations.

Example illustrating phase in limitation

Facts and calculation of initial phase in

An Employer establishes a calendar year plan that provides a benefit equal to the sum of 1% of compensation for each year of service. Employee A commences participation in the plan when the Plan is first adopted.

Assume that A receives \$200,000 in compensation for all years under the plan, and that the dollar limitation in effect is \$90,000 for all years.

As of the end of the first year, A's accrued benefit under the plan (prior to application of the phase-in limitations) would be \$2,000 ($\$200,000 \times 1\%$). This benefit would not exceed the initial ten-year phase-in limitation applicable to A, of \$9,000 ($\$90,000 \text{ times } 1/10$).

Increase in benefit formula 5 years later

Five years later the plan is amended to provide a benefit equal to the sum of:

- 1% of compensation for each year of service prior to the effective date and
- 4% of compensation for each year of service after.

As of the end of the 5th year, A's accrued benefit under the plan (prior to application of the phase-in limitations) would be \$16,000:

- years 1-4 accrual = \$8,000 ($\$200,000 \times 1\% \times 4$), plus
 - year 5 accrual of \$8,000 ($\$200,000 \times 4\% \times 1$).
-

Calculating the initial phase in

The total accrued benefit does not exceed the initial ten-year phase-in limitation applicable to A of \$45,000 ($\$90,000 \text{ times } 5/10$).

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Example illustrating phase in limitation, Continued

Calculating the phase in for change in benefit structure

In addition, the benefit attributable to the change in benefit structure effective in year 5 may not exceed the ten-year phase-in limitation for such change applicable to A. Again, this limitation is \$9,000 ($\$90,000 \times 1/10$).

A's benefit attributable to such change is equal to \$6,000.

A's entire accrued benefit in the fifth year is \$16,000. The benefit he would have accrued under the plan prior to such change would be \$10,000 ($\$200,000 \times 1\% \times 5$).

The difference, \$16,000 - \$10,000, is the benefit attributable to the change (\$6,000). Since this is less than the separate ten-year phase-in limitation applicable to such change of \$9,000 ($\$90,000 \times 1/10$), the limitation is satisfied.

Example, additional change in benefit structure

Facts and calculation of accrued benefit

Building on the previous example, in year 6, the plan is amended to provide a benefit equal to the sum of:

1. 1% of compensation for each year of service for the first four years of the Plan's existence,
2. 4% of compensation for each year of service for the fifth year, and
3. 8% of compensation for each year of service after the fifth year.

As of the end of sixth year, A's accrued benefit under the plan (prior to application of the phase-in limitations) would be \$32,000:

1. $\$200,000 \times 1\% \times 4 = \$8,000$ for years 1 to 4,
2. $\$200,000 \times 4\% \times 1 = \$8,000$ for year 5, and
3. $\$200,000 \times 8\% \times 1 = \$16,000$ for year 6.

Initial ten year phase in

This benefit would not exceed the initial ten-year phase-in limitation applicable to A, of \$54,000 ($\$90,000 \times 6/10$).

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Example, additional change in benefit structure, Continued**Second 10 year phase in**

The benefit provided in the 6th year would, however, exceed the “second ten year phase in” that went into effective due to the change in the 5th year.

The limitation for that ten-year phase-in, is \$18,000 (\$90,000 times 2/10 for years 5 & 6). His benefit attributable to such change is \$20,000, calculated as follows:

1. His accrued benefit in the 6th year, (without regard to 415(b)(5)(D)) is \$32,000.
2. Had neither plan amendment been made his accrued benefit as of the end of the 6th year would have been \$12,000 ($\$200,000 \times 1\% \times 6$).

Since the benefit attributable to the change (\$20,000) would exceed the separate ten-year phase-in limitation, he cannot accrue the full benefit.

The plan must limit his benefit attributable to the change in benefit structure to \$18,000 instead of \$20,000, which means that his total accrued benefit as of the year cannot exceed \$30,000 (the \$12,000 he would have earned plus the \$18,000 attributed to the change that is allowed.).

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Example, additional change in benefit structure, Continued**Third phase in, due to the latest amendment in year 6**

Finally, the benefit attributable to the change in benefit structure effective in the 6th year may not exceed the ten-year phase-in limitation for such change applicable to A. This limitation is \$9,000 (\$90,000 times 1/10). A's benefit attributable to such change is equal to \$6,000 calculated as follows:

1. His accrued benefit in 1993 is \$30,000 based on the application of the relevant phase-in limitations to prior changes in benefit structure as calculated above, less
2. The benefit he would have accrued under the plan in effect prior to the change of \$24,000 [$(\$200,000 \times 1\% \times 4) + (\$200,000 \times 4\% \times 2)$].

Since the benefit attributable to the change (\$6,000) does not exceed the separate ten-year phase-in limitation (\$9,000), the limitation is satisfied.

If the plan is funded using the Unit Credit Method, only \$9,000 of the increase in accrued benefit during the 6th is used to determine the Normal Cost of the plan. The remaining \$7,000 is allocated to the past service liability and gives rise to an amortization base for purposes of sections 404 and 412 of the Code.

Certain changes in benefits cannot be considered

For the purposes of determining Minimum Funding under IRC section 412, and, by extension, deductibility under IRC section 404, certain changes in benefits cannot be considered:

1. Changes in plan benefits that become effective in a future year are to be ignored. (See Reg. 1.412(c)(3)-1(d)(1) and Rev. Rul. 77-2.)
2. Automatic increases in the IRC 415 dollar limitation do not apply until January 1 of the calendar year in which they become effective (see Income Tax Reg. 1.415-5 and United States Tax Court Case 80 T.C. No. 4, *Feichtinger v. Commissioner*).

If the plan does not contain a provision for increasing the 415 dollar limitation, the benefits are always limited to the dollar limit specified in the plan (see Rev. Ruls. 81-195 and 81-215).

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Example, additional change in benefit structure, Continued

Example of not having a COLA

A calendar year plan contains the following provision: “Notwithstanding any provision of the Plan to the contrary, in no event will the benefits with respect to a participant exceed the lesser of:

1. \$90,000, or
2. 100 % his average compensation for his high 3 years when expressed as an annual life annuity.”

The plan does not contain the cost of living adjustment provisions of IRC section 415(d).

In 1999, the maximum benefit that the Actuary can fund for and that will be deductible is \$90,000 and not the \$130,000 maximum that is in effect for that year.

Compensation limitations and minimum funding

Interaction between compensation limits and funding

The compensation limitations of IRC 401(a)(17) also apply in determining the Minimum Funding and deductible limits.

Also remember that for years before 1997, the family aggregation rules of IRC 414(q)(6) apply. Thus, the combined compensation of spouses and their children under age 19 cannot exceed \$150,000 (as adjusted). For years after 1996, this family aggregation rule no longer applies.

Audit Tip

Some plans are written to provide that benefits are based on the 3 year highest average compensation.

Since the dollar limitations of IRC section 401(a)(17) were higher in the early 1990's, some participant's current benefits may be based on that higher compensation rate.

Remember that IRC section 411(d)(6) prohibits the reduction of accrued benefits, so any benefits accrued based on the higher dollar limitations of prior years can be retained.

However, benefits accruing after the reduction cannot consider the higher compensation from prior years.

Table of 401(a)(17) limits and the three year averages

<i>Year</i>	<i>Maximum</i>	<i>Average</i>
1990	209,200	
1991	222,220	
1992	228,860	220,093
1993	235,840	228,973
1994	150,000	150,000
1995	150,000	150,000
1996	150,000	150,000
1997	160,000	153,333
1998	160,000	156,667
1999	160,000	160,000
2000	170,000	163,333
2001	170,000	166,667

Full Funding Limit

Introduction

In determining the amount deductible under IRC sections 404(a)(1)(A)(i), (ii) or (iii), the funding method and the actuarial assumptions used for determining funding under IRC section 412 must also be used for deductibility.

The maximum amount deductible for any year shall be an amount equal to the **Full Funding Limitation** for such year, determined under IRC section 412.

There are actually three Full Funding Limitations:

1. The Accrued Liability Full Funding Limitation (also called the ERISA Full Funding Limitation),
2. The OBRA '87 Full Funding Limitation (also called the 150 % Current Liability Full Funding Limitation), and
3. The RPA '94 Override.

A Plan's Full Funding Limitation is the lesser of the ERISA Full Funding Limitation or the OBRA '87 Full Funding Limitation, but not less than the RPA '94 Override.

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Full Funding Limit, Continued

**ERISA full
Funding
limitation**

The ERISA Full Funding Limitation is equal to:

1. The Accrued Liability with interest to the end of the year, **plus**
2. The Normal Cost also with interest to the end of the year, **less**
3. The value of plan assets also with interest to the end of the year.

For the purpose of this calculation:

1. If the Accrued Liability cannot be directly calculated under the funding method used, then it is determined under the Entry Age Normal Funding Method.
2. The interest rate is the valuation rate.

The value of assets is the lesser of the fair market value or the actuarial value and decreased by the credit balance.

Continued on next page

Full Funding Limit, Continued**Example illustrating ERISA full funding limit—first year of operation**

As stated in the example we have been using, assume the plan accrues a benefit equal to 1 % of compensation each year and that the participant earns \$30,000 a year every year (no salary change).

The plan is started when the employee is age 40 but the plan credits past service from when you are first employed. Thus, with this participant, the plan credits her with service since age 20, and grants the participant 20 years of past service credit. Finally, assume an Annuity Purchase Rate of 10 and interest of 5 %.

As of age 40 our participant's Accrued Benefit is \$6,000 ($\$30,000 \times 1\% \times 20$ years (40- 20)). At 65 or NRA, the benefit is worth \$60,000 ($\$6,000 \times 10$). At her attained age, the present value is \$17,718 ($\$60,000 \times (1.05^{-25})$ or $\$60,000/1.05^{25}$). This would be the Accrued Liability in the first year.

Thus, as of age 40, her Accrued benefit was \$6,000 ($20\% \times \$30,000$), which, at 65, was worth \$60,000 and at her attained age had a present value is \$17,718.

In addition, Normal Cost for the year was calculated to be \$886. Under the Unit Credit Method, his Normal Cost for the year is the Present Value of the benefit accrued during the year. The benefit accrued was \$300 that was worth \$3,000 at age 65 and \$886 at age 40.

We also determined that the 10 year amortization of the Past Service Liability was \$1,098. Since this is the first year of Plan operation there were no plan assets.

Continued on next page

Full Funding Limit, Continued

Example- ERISA Full funding limit- second year

Same facts as example above, but these figures were for the second year of operation. In addition let's assume that a contribution was actually made mid year of \$1,098 based on the prior year's costs (which haven't changed).

The Actuary assumes an 8 % growth rate for the purposes of the actuarial value of assets (subject to the 80 %/120% limits) and, as of the valuation date (first day of the year), the assets were worth \$2,182.

The ERISA Full Funding Limitation would be as follows:

1. Accrued Liability:	\$17,718	
2. Normal Cost:	<u>886</u>	
3. Sub Total:	\$18,604	
4. Interest on 3:	<u>930</u>	(\$18,604 x 5 %)
5. Total 3 + 4:		\$19,534
6. FMV of Assets:	\$ 2,182	
7. Actuarial Value!:	1,746	
8. Lessor of 6 or 7:		<u>1,746</u>
9. Full Funding Limitation (5-8):		\$17,788

Note !: The contribution of \$1,098 was made mid year. Accordingly the Actuary assumed it would be worth \$1,142 as of the end of the year ($\$1,098 \times 1 + (.08/2)$ (Or 1.04)). However the Fair Market Value of the assets was \$2,182 and 80 % of that is \$1,746. So the lowest actuarial asset value he could use was the \$1,746.

OBRA 87 current liability full funding limitation

**Description of
OBRA 87 full
funding limit**

The OBRA '87 Current Liability Full Funding Limitation is equal to:

1. 150% of Current Liability (including the expected increase in Current Liability due to benefits accruing during the plan year), with interest to the end of the year, **minus**
2. The asset value with interest to the end of the year.

For the purpose of this calculation:

1. If the Current Liability cannot be directly calculated under the funding method used, then it is determined under the Entry Age Normal Funding Method.
2. The interest rate is the valuation rate.
3. The value of assets is the lesser of the fair market value or the actuarial value and decreased by the credit balance.
4. Current Liability has the meaning given to it under IRC 412(l)(7) without regard to IRC 412(l)(7)(C) and (D).

Continued on next page

OBRA 87 current liability full funding limitation, Continued**Example
OBRA 87 full**

Expanding on the previous, we know:

- the Accrued Liability is \$17,718,
- the Normal Cost is \$886,

Thus, the Current Liability is the sum of the Accrued liability and the Normal Cost, or \$18,604.

The Actuarial Value of Assets is \$1,746 and the Fair Market Value is \$2,182.

Based on these facts the OBRA Full Funding Limitation is calculated as follows:

1. Current Liability :	\$18,604	
2. # 2 x 150%:	27,906	
3. Interest on 2:	<u>1,395</u>	(\$27,906 x 5 %)
4. Total 2 + 3:	<u>\$29,301</u>	
5. FMV of Assets:	\$ 2,182	
6. Actuarial Value:	1,746	
7. Lessor of 5 or 6:		<u>1,746</u>
8. Full Funding Limitation (4-7):		\$27,555

RAP Override—funding limitation

Description The RPA '94 Override provides that the Full Funding Limitation shall not be less than:

1. The Current Liability (including the expected increase in Current Liability due to benefits accruing during the plan year) x 90 % with interest to the end of the year, **minus**
2. the actuarial value of assets with interest to the end of the year.

Unlike the ERISA and OBRA Full Funding Limitations assets are not reduced by the credit balance.

Example illustrating RPA 94 override

Expanding on previous example, we know the Current Liability is \$18,604 (including the current year's Normal Costs). We also know that the Actuarial Value of Assets is \$1,746. Based on these facts the RPA '94 Override is calculated as follows:

1. Current Liability:	\$18,604	
2. 90 % of # 1:	16,744	
3. Interest on 2:	837	(\$16,744 x 5 %)
4. Total 2 + 3:	\$17,581	
5. Actuarial Value of assets:	1,746	
6. RPA '94 Override:	\$15,835	

Comparison of the three full funding limitations

So the applicable Full Funding Limitation would be the lesser of:

- the ERISA Full Funding Limitation, or
- the OBRA Full Funding Limitation

but not less than the RPA '94 Override, calculated as follows:

1. ERISA Full Funding Limitation:	\$ 17,788	
2. OBRA Full Funding Limitation:	27,555	
3. Lessor of 1 or 2:		\$17,788
4. RPA '94 Override:		15,835
5. Greater of 3 or 4:		\$17,788

Interest rates—used for actuarial valuation

**Interest rate
used to
determine
current
liability-OBRA
87**

Remember we said that the Actuary can use any interest rate for the Actuarial Valuation as long as it is reasonable? Well that's not quite true.

For the OBRA '87 Current Liability, Notice 90-11 (1990-1 CB 319, (Jan. 29, 1990)) states that the interest rate must be:

1. not less than 90 percent, nor
2. greater than 110 percent of,

the weighted average of 30-year Treasury securities for the relevant period.

Thus, no interest rate other than those specified in the notice may be used to compute Current Liability.

**Interest rate
used to value
current liability
was change
with RPA 94**

For the purposes of RPA '94, this rate was modified to be:

1. not less than 90 percent, nor
2. greater than 105 percent of,

the weighted average of 30-year Treasury securities for the relevant period.

For Plan Years Beginning in 2002 and 2003, the upper rate for RPA '94 was increased to 120% of the weighted average.

The month in which the Plan Year Begins determines the interest rate used for both. These rates are published monthly on the IRB.

The following table reflects those rates from 1/00 through 10/02:

<i>Month/Year</i>	<i>Weighted Aver.</i>	<i>90 %</i>	<i>RPA '94 105 % (0'2 & '03) 120%</i>	<i>OBRA '87 110 %</i>
1/03	5.54	4.98	6.09	6.65
12/02	5.56	5.00	6.12	6.67
11/02	5.58	5.02	6.14	6.70
10/02	5.60	5.04	6.72	6.16
9/02	5.63	5.07	6.76	6.20
8/02	5.65	5.09	6.78	6.22
7/02	5.67	5.10	6.80	6.23
6/02	5.68	5.11	6.81	6.24
5/02	5.69	5.12	6.82	6.25
4/02	5.69	5.12	6.83	6.26
3/02	5.71	5.14	6.85	6.28
2/02	5.70	5.13	6.84	6.27
1 /02	5.69	5.12	6.83	6.26
12/01	5.72	5.15	6.01	6.29
11/01	5.74	5.17	6.03	6.32
10/01	5.76	5.18	6.05	6.34
9/01	5.77	5.20	6.06	6.35
8/01	5.79	5.21	6.08	6.37
7/01	5.80	5.22	6.09	6.38
6/01	5.82	5.24	6.11	6.40
5/01	5.83	5.25	6.12	6.42
4/01	5.85	5.26	6.14	6.43
3/01	5.87	5.29	6.17	6.46
2/01	5.89	5.30	6.19	6.48
1/01	5.91	5.32	6.21	6.50
12/00	5.93	5.34	6.23	6.52
11/00	5.94	5.34	6.23	6.53
10/00	5.95	5.35	6.24	6.54
9/00	5.96	5.36	6.26	6.56
8/00	5.98	5.38	6.28	6.57
7/00	5.99	5.39	6.29	6.59
6/00	6.01	5.41	6.31	6.61
5/00	6.02	5.41	6.32	6.62
4/00	6.03	5.43	6.33	6.64
3/00	6.04	5.44	6.34	6.64
2/00	6.03	5.43	6.34	6.64
1/00	6.01	5.41	6.31	6.61

Deduction for Terminating plans

Introduction- deduction for liability payments for terminating plans

IRC section 404(g) provides special rules concerning the deduction of employer liability payments under section 4041(b), section 4062, section 4063, section 4064 or part 1 of Subtitle E of Title IV of ERISA (withdrawal liability of Multiemployer plans).

Generally amounts paid by an employer subject to these sections are deductible in the year paid.

Exception to deductibility for terminating plans-no deduction in excess of PBGC guaranteed benefits

IRC section 404(g)(3)(B) provides an exception with regard to terminating plans.

There is no separate deduction allowed under the Code for contributions made to the Plan to fund for benefits in a terminating plan, except for contributions made to cover benefits that are not in excess of those guaranteed by the PBGC.

Thus, an employer cannot immediately deduct the difference between the Present Value of the Accrued Benefits and the assets, even if the plan is terminating. Amounts contributed in the year of termination that are not fully deductible in that year may be deductible in subsequent years, subject to the deduction rules under IRC 404(a).

The deductible limits of IRC 404(g) are subject to the Full Funding Limitation.

Deduction for large plans

Special limit for large plans IRC section 404(a)(1)(D) provides a special rule for certain non-Multiemployer defined benefit plans.

The plan must have 101 or more participants (including former participants and or beneficiaries with assets still held in the plan) for the plan year. All defined benefit plans of the employer are taken into account to determine if the plan has 101 or more participants.

The maximum deductible amount shall not be less than the Unfunded Current Liability determined under section 412(l)(8). The Unfunded Current Liability includes adjustments to the end of the year for benefits accruing during the year plus interest at the Current Liability interest rate.

Audit tip Verify that the plan(s) have 101 or more participants and review the Actuarial Valuation to determine Unfunded Current Liability (Current Liability minus assets).

Deductions for collectively bargained plans

**Introduction-
section
401(a)(1)(B)**

IRC section 404(a)(1)(B) provides that:

1. In the case of a collectively bargained plan that **makes the election**,
2. If the Full Funding Limitation, determined under rules for collectively bargained plans under IRC section 412(c)(7) for such year, is zero,
3. If, as a result of any plan amendment applying to such plan year, the amount determined under IRC section 412(c)(7)(B) (adjustments after re-organization) exceeds the amount determined under section 412(c)(7)(A) (amounts paid under withdrawal liability), and
4. If the funding method and the actuarial assumptions used are those used for such year under section 412,

The maximum amount deductible in such year under the limitations of this paragraph shall be an amount equal to the lesser of--

1. The Full Funding Limitation for such year determined by applying section 412(c)(7), but increasing the amount referred to in subparagraph (A) thereof by the decrease in the present value of all unamortized liabilities resulting from such amendment, or
2. The Normal Cost under the plan reduced by the amount necessary to amortize in equal annual installments over 10 years (until fully amortized) the decrease described in 1 above.

Continued on next page

Deductions for collectively bargained plans, Continued

**Section
404(a)(1)(C)-
large
collectively
bargained plans**

IRC section 404(a)(1)(C) provides that in the case of:

a collectively bargained plan established or maintained by an employer doing business in not less than 40 States and engaged in the trade or business of furnishing or selling telephone services, or other communication services if furnished or sold by the Communications Satellite Corporation, with respect to which the rates have been established or approved by a State or political subdivision thereof, by any agency or instrumentality of the United States, or by a public service or public utility commission or other similar body of any State or political subdivision thereof, and in the case of any employer which is a member of a controlled group with such employer,

IRC section 404(a)(1)(B) shall be applied by substituting for the words “plan amendment” the words “plan amendment or increase in benefits payable under title II of the Social Security Act”.

Again, these rules are so complicated that if you run into them you should consult our Actuaries.

Deductibility for interest

**Introduction-
deduction may
included
interest**

The deductible limit under IRC 404(a)(1)(A)(i), (ii) and (iii) may include interest on the actuarially computed costs.

Such interest is computed from the date the costs are determined (valuation date) to the earlier of

- (i) the end of the plan year; or
 - (ii) the end of the fiscal/tax year.
-

Example

For a calendar plan year, the amount needed to satisfy the Minimum Funding deficiency is \$10,000, computed as of January 1, 2000. The fiscal year that relates to the plan year ends June 30, 2000. The interest rate used is 8%.

The maximum deductible limit under IRC 404(a)(1)(A)(i) is \$10,400 for the tax year ending June 30, 2000. If the tax year ended December 31, 2000 the deductible limit would be \$10,800. If the Actuary used a valuation date of December 31, 2000 and the tax year ended December 31, 2001, the deductible limit would be \$10,000.

Timeliness of contributions to a DB plan

Introduction

The timeliness of contributions impacts on Minimum Funding and deductibility. When determining timeliness for funding and deductibility, caution should be used since different dates are used for determining whether a payment is ‘late’.

Section 412(c)(10)-contribution deadline for minimum funding

IRC section 412(c)(10) provides that, for the purposes of Minimum Funding, (other than a Multiemployer plan), any contribution for a plan year made by an employer during the period that:

1. Begins on the day after the last day of such plan year, and
2. ends on the day which is 8 ½ months after the close of the plan year,

is deemed to have been made on such last day of the Plan Year.

In other words, in the case of a calendar year plan, **the employer can make a contribution up until 9/15 of the subsequent year**. No extension for filing of the Schedule B or of Form 5500 is required to get this extended period.

Impact of failing to timely contributing the minimum funding amount requirement

Failure to make the contribution timely will cause the plan to fail to meet Minimum Funding in the year. This will result in an excise tax under IRC section 4971.

Since the dates contributions are made impact on the calculation of costs, failure to make contributions on the dates stated (or for the amounts stated) on the Actuarial Report or the Schedule B may result in an under or overstating of these costs.

In most instances the Actuary is relying on a verbal or written contact from the employer as to the dates and amounts of contributions. They rarely verify these dates (amounts) from source documentation.

Continued on next page

Timeliness of contributions to a DB plan, Continued

Audit tips

- All contributions listed on the Schedule B should be verified as being timely made to the trust.
- Where the Employer maintains more than one plan, verify that the contribution was made to the correct plan.
- Examine the 5500's of related returns.
- Does the asset section of those returns show a payable to the defined benefit plan?
- Was the contribution made to the Profit Sharing Plan timely but by mistake and then later transferred to the proper plan?

Difference between deadline for filing Form 5500 and making minimum contributions

The due date for filing the 5500 is 7 months after the end of the plan year.

The Employer, however, has 8 ½ months after the end of the plan year to make contributions to avoid a Funding Deficiency. If the Schedule B indicates a Funding Deficiency, check to see when the return was filed and if it was filed timely. Then check to see if any additional contributions were made by the time required under IRC 412(c)(10). You should be able to determine any potential additional contributions by reviewing the subsequent year's Schedule B.

Linkage of tax year to plan year—calculating the deductible limit

Those who are familiar with defined contribution plans also know that where the Plan Year is different from the Tax Year, the deduction is determined by the Plan Year that ends within the tax year.

When the Employer's Tax Year and Plan Year are the same, there is no problem.

The deductible limit is determined by the Plan Year **that coincides with the Tax Year.**

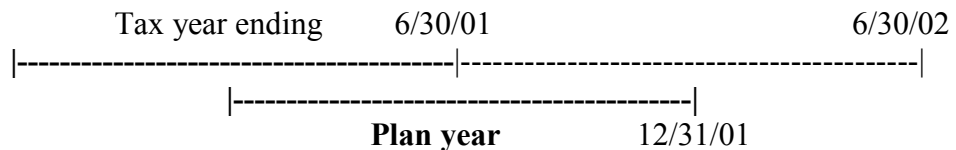
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Timeliness of contributions to a DB plan, Continued

Example-linkage with DC plan—if tax and plan years are different

An employer has a fiscal year ending 6/30/01. He adopts a profit sharing plan that has a Plan Year that end 12/31/01.

Contributions for the Plan Year Ending 12/31/01 are deductible in the 6/30/02 fiscal year, even if they are all paid by 9/15/01 (the due date for the 6/30/01 return). The tax year coinciding with the plan year ending 12/31/01 is the fiscal year ending 6/30/02. You look to the taxable year for which the plan year is ending. Thus, the plan year ending 12/31/01 is in the tax year which ends 6/30/02.



Linkage of plan year with tax year for a DB plan—if plan and tax years differ

The linkage rules for DB plans differ from the DC plan rules.

Income Tax Regulations section 1.404(a)-14 provides that if the employer's taxable year does not coincide with the plan year, the deductible limits for a given taxable year of the employer is one of the following alternatives:

1. Based on the plan year commencing within the taxable year.
2. Based on the plan year ending within the taxable year, or
3. Based on a weighted average using alternatives (1) and (2).

The regulations further provide that the average may be based, for example, upon the number of months of each plan year falling within the taxable year.

Under the regulations, the employer must use the same alternative for each taxable year unless consent to change is obtained from the Commissioner.

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Timeliness of contributions to a DB plan, Continued**Example-linkage with a DB plan**

Example 21: An employer has a fiscal year ending 6/30/01. He adopts a defined benefit plan that has a Plan Year that end 12/31/01. The amount deductible for the plan years 12/31/01 is \$10,000 and for 12/31/02 is \$15,000.

He could:

1. Deduct \$10,000 in the Tax Year 6/30/01 and \$15,000 in Tax Year 6/30/02, or
2. Deduct \$10,000 in the Tax Year 6/30/02 and \$15,000 in Tax Year 6/30/03, or
3. Deduct:
 - \$5,000 in the Tax Year 6/30/01 ($\$10,000 \times 6/12$),
 - 12,500 in the Tax Year 6/30/02 ($(\$10,000 \times 6/12) \text{ plus } (\$15,000 \times 6/12)$)
 - with the remaining \$7,500 being added to the pro-ratable portion of the 12/31/03 contribution and deductible in Tax Year 6/30/03.

He could not deduct \$10,000 in the Tax Year 6/30/1 and then deduct \$12,500 in the Tax Year 6/30/2 unless he got prior approval from the Internal Revenue Service.

Audit tips

- Where the Plan Year and Tax Year are different, ask the Employer which tax year the deduction was claimed on.
- Verify the Actuarial Report's deductible limit verses the claimed deduction.
- Review the prior and subsequent year reports with the proper tax year.
- If the linkage appears to change, ask for an explanation. If it did change and prior approval was not gotten refer the case to our Actuaries.

Special rules

**Introduction—
adjustments to
deductibility
and funding**

The following adjustments must be made for purposes of determining deductibility and IRC section 412 when:

1. Computing Normal Cost under aggregate type funding methods,
 2. Computing Unfunded Liabilities, and
 3. Computing the Full Funding Limitations.
-

**Plan
contribution
excluded from
total assets**

Excluded from the total assets of the plan is the amount of any plan contribution for a plan year for which the plan was qualified under section 401(a), 403(a) or 405(a) that has not been previously deducted.

Even though such amount may have been credited to the Funding Standard Account under section 412(b)(3).

**For plans using
a spread gain
funding method**

In the case of a plan using a Spread Gain funding method that maintains an Unfunded Liability (*e.g.*, the frozen initial liability method, but not the aggregate method), the contributions described in item “1” must be included in the Unfunded Liability of the plan.

**Amount
included in
total assets of
the plan**

Included in the total assets of the plan for a plan year the amount of any plan contribution that has been deducted with respect to a prior plan year. Even though that amount is considered under section 412 to be contributed in a plan year subsequent to that prior plan year.

**Plan using
spread gain
method**

In the case of a plan using a Spread Gain funding method that maintains an Unfunded Liability, the amount described immediately above must be excluded from the Unfunded Liability of the plan.

**The first and
second
adjustment**

The first and second adjustments apply on a year-by-year basis for purposes of section 404(a)(1)(A) only and have no effect on the computation of the Minimum Funding requirement under section 412.

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Special rules, Continued

Components of the limit under section 404(a)(1)(A)(i) Remember that for purposes of determining the deductible limit under section 404(a)(1)(A)(i), the deductible limit with respect to a plan year is:

1. The amount required to satisfy the Minimum Funding standard for the plan year, plus
2. Any employer contributions that were required for Minimum Funding immediately preceding such plan year, and which were not deductible under section 404(a) for the prior taxable year of the employer solely because they were not contributed during the prior taxable year under IRC section 404(a)(6).

Deductible limit under section 404(a)(1)(A)(iii) In calculating the deductible limit under section 404(a)(1)(A)(iii), the Normal Cost of the plan is:

1. Decreased by the limit adjustments to any unamortized bases due to a net experience gain, a change in actuarial assumptions, a change in funding method, or a plan provision or amendment which decreases the Accrued Liability of the plan, and
2. Increased by the limit adjustments of any unamortized 10-year amortization bases required by paragraph for bases that are due to a net experience loss, a change in actuarial assumptions, a change in funding method, or a plan provision or amendment which increases the Accrued Liability.

Continued on next page

Special rules, Continued

Interest added Regardless of the actual time when contributions are made to a plan, for the purposes of IRC 404(a)(1)(A)(ii) and (iii), the Normal Cost and limit adjustments are computed as of the date when contributions are assumed to be made.

They are then adjusted for interest at the valuation rate from the computation date to the earlier of:

1. The last day of the plan year used to compute the deductible limit for the taxable year, or
 2. The last day of that taxable year.
-

Bases for both deduction and minimum funding

Introduction

We've been discussing bases and their amortization for some time. Perhaps you've picked up on the fact that we are talking about two types of bases, those created under IRC section 412 (for funding purposes) and those created under IRC section 404 (for deduction purposes).

The amortization of these bases will be different for the same item because of how long they may be amortized over for IRC sections 412 verses 404.

Bases under section 412 (and 404(a)(1)(A)(i))

For the purposes of IRC section 412 (and 404(a)(1)(A)(i)) you may see the following bases:

1. Unfunded Past Service Liability:
 - A. Plan in existence 1/1/74, year in which 412 first applies- amortized over 40 years.
 - B. Plan in existence after 1/1/74, year in which 412 first applies- amortized over 30 years.
 - C. Occurring due to Plan Amendment- amortized over 30 years.
 2. Net Experience loss for each Plan Year- amortized over 5 years (15 if Multiemployer plan).
 3. Net Experience loss due to change in Actuarial Assumptions used for each Plan Year- amortized over 10 years (30 if Multiemployer plan).
 4. Waived Funding Deficiency for Plan Year- amortized over 5 years (15 if Multiemployer plan).
-

Bases under 404

Introduction

For the purposes of IRC section 404 the amortization is different:

1. Experience gains and losses for an immediate gain type of funding methods are amortized over 10-years. This base must not be established if the deductible limit is determined by use of a funding method which is a Spread Gain type of funding method.
 2. A gain (loss) resulting from a change in actuarial assumptions are amortized over 10 years. The amount of the base is the difference between the Accrued Liability calculated on the basis of the new assumptions and the Accrued Liability calculated on the basis of the old assumptions. Both computations of Accrued Liability are made as of the date of the change in assumptions.
 3. A 10-year base must be established when a plan is established or amended, if the creation of an amortization base is required because of Past Service or Supplemental Credits. The amount of the base is the Accrued Liability arising from, or the decrease in, Accrued Liability resulting from, the establishment or amendment of the plan.
 4. If a change in funding method results in an increase or decrease in an Unfunded Liability that is required to be amortized under section 412, a 10-year base must be established equal to the increase or decrease in Unfunded Liability resulting from the change in funding method.
-

404 base maintenance

Each time a base is established, the base must be separately maintained in order to determine when the unamortized amount of the base is zero. The sum of the unamortized balances of all of the 10-year bases must equal the plan's Unfunded Liability with the adjustments. When the unamortized amount of a base is zero, the deductible limit is no longer adjusted to reflect the amortization of the base.

Continued on next page

Bases under 404, Continued**404 base
maintenance**
(continued)

The concept here is that a contribution (deduction) is first applied to the plan's Normal Cost for the year. Once the Normal Cost has been met the remaining contribution is applied to reduce the bases.

In addition you need to know the unamortized bases to determine the Balance Equation (which we will discuss later). For the first year of a base, it's unamortized amount is that which was calculated initially.

Example-facts

If there is a gain for 1/1/02 of \$11,022, this amount is the unamortized base as of 1/1/02.

After the first year of a base, the unamortized amount of the base is equal to:

1. The unamortized amount of the base as of the valuation date in the prior plan year, plus
 2. Interest from the valuation date in the prior plan year to the valuation date in the current plan year, minus
 3. Contributions allocated to the base for the prior plan year.
-

Continued on next page

Bases under 404, Continued**First step-
allocate
contributions
among all the
bases**

The first thing you need to do is to determine the total contributions to be allocated among all the bases. This is the difference between:

1. The sum of
 - A. the total deduction (including a carryover deduction) for the prior year,
 - B. interest on the actual contributions for the prior year (whether or not deductible) at the valuation rate for the period between the dates as of which the contributions are credited under section 412 and the valuation date in the current plan year, and
 - C. interest on the carryover under IRC section 412(l) (relating to plans with less than 100 participants) as described in section 404(a)(1)(E) that is available at the beginning of the prior taxable year at the valuation rate for the period between the current and prior valuation dates, **and**

The Normal Cost for the prior plan year and interest on it at the valuation rate from the date as of which the Normal Cost is calculated to the current valuation date.

Continued on next page

Bases under 404, Continued**Example**

Assume the deduction claimed for the 12/31/01 year ending was \$28,272. This was paid 7/1/01. The valuation interest rate was 5 %. Normal Cost for the prior year was \$7,096. Let's assume there is no IRC section 412(l) issues. The valuation date is 1/01.

For the 1/1/02 valuation date the Total Amount to be allocated to the bases would be \$21,528, determined as follows:

Total Deduction 1/1/1 Year:	\$28,272	
Actual Contributions:	\$28,272	
Interest on Cont's:	707	(From 7/1/1 to 1/1/2 @ 5 %)
412(l) Carryover:	-0-	
Interest on 412(l) Carryover:	<u>-0-</u>	
Subtotal:	\$28,979	
Normal Cost Prior Year:	\$7,096	
Interest on Normal Cost Prior Year:	<u>355</u>	
Subtotal:	<u>6,451</u>	
Total Contributions to be allocated to bases:	\$21,528	

Additional steps in example

Once the Total Contributions to be allocated to bases are determined, the next step is to allocate the amount determined among the bases. Generally, this is done on a pro-rata basis of the base to the sum of the bases.

The exception to this rule is where the amount allocated to a particular base exceeds the amount necessary to fully amortize the base. In that case only the amount needed to fully amortize the base is deemed allocated to that base.

The unallocated excess with respect to a now fully amortized base is allocated among the other bases as indicated above.

Continued on next page

Bases under 404, Continued**Example**

Assume, for the 1/1/01 valuation date, we have just one amortization base for the Unfunded Accrued Liability of \$160,778. The amortization of the base is \$19,830.

For the valuation date 1/1/02 we have two bases, the adjusted base for the Unfunded Accrued Liability from year 1 and the Gain from year 2 of \$11,022. The first base is adjusted as follows:

a. Base at 1/1/01:	\$160,778
b. Interest on Base to 1/1/02:	<u>8,039</u>
c. Total of Base + Interest (a+ b):	168,817
d. Contribution to be allocated:	21,528
e. Adjusted Base (c-d):	147,289

Continued on next page

Bases under 404, Continued

Example cont'd So as of 1/1/02 the first base is \$147,289. The amount permitted to be amortized, based on the adjusted base, is the lesser of the adjusted base or the original amortization (also called the Limit Adjustment). Since the original amortization is \$19,830, that amount will continue to be used. Since the Gain from Year 2 is a new base, the Gain is not adjusted for allocated contributions.

How, then, does the allocation of the deduction in excess of Normal Cost impact on the base? In essence by shortening the period it is amortized over.

The new base is \$147,289 and the amortization is \$19,830. The intent is that the remaining base will be paid off by \$19,830 per year until it is gone. The original length was based on 10 years and it is 1 year later so the natural conclusion is that there is 9 years of amortization left.

Let's look at it. To determine the original amortization we divided the original base by the original Temporary Annuity Factor, which is 8.1078. So if we take the adjusted base and divide it by the amortization we get the New Temporary Annuity Factor of 7.4276.

To find the length of time the adjusted base and the amortization now represent, we can use the NPER calculation of Excel. To calculate the NPER (length left on base payments) open up an Excel Spread Sheet. While in a "cell" choose the function button from the menu bar (the "fx" button). From the dialog box choose "NPER". Now you just have to fill in the dialog box as follows:

<i>Under</i>	<i>Insert</i>	<i>For example:</i>
Rate:	.05	The interest rate assumed – enter as decimal
PMT	-19830	Enter the original amortized amount as a negative number, no commas
PV	147289	Enter the Adjusted Base- no commas
FV		Leave Blank
Type	1	Paid at beginning of period Enter "0" or leave blank if paid at end

Continued on next page

Bases under 404, Continued**Example
Cont'd**

The answer is 8.95. So the remaining period on the amortization is a little less than 9 years.

To double check this figure, you can calculate the Temporary Annuity Factor which is 7.4301 (PV: .05, 8.95, -1, , 1), which is very close to the original figure we got of 7.4276.

Note: The Commissioner of Internal Revenue may authorize the use of methods other than the above method for allocating contributions to bases.

412 Base Maintenance

Introduction

As with 404 bases, each time a base is established, the base must be separately maintained in order to determine when the unamortized amount of the base is zero. Unlike 404 bases a 412 base is not affected by contributions. Instead the base is adjusted as if the contribution needed to amortize the base were timely made.

Example- determining the adjusted base

In the previous example, the Initial Unfunded Liability created when the plan was established was \$160,778.

Under IRC section 412 this initial liability is to be amortized over 30 years. The Temporary Annuity Factor is 16.1411 (PV: .05,30,-1, ,1) which means the amortized payment is \$9,961 (\$160,778/16.1411). As of the next valuation date (1/1/2) the adjusted base is \$158,357, determined as follows:

Initial Base:	\$160,778
Less: Amortized Pmt.:	<u>9,961</u>
Subtotal:	\$150,817
Interest from 1/1/1 to 1/1/2 @ 5%:	<u>7,541</u>
Adjusted Base:	\$158,358

Example cont'd—control check

As with maintaining bases under IRC section 404 there is a reason for maintaining 412 bases, called the Control Check. Under the Control Check:

1. the sum of the statutory unamortized bases, minus
2. the credit balance, plus
3. the Funding Deficiency

should equal the actual Unfunded Liability.

Continued on next page

Bases under 404, Continued**Example
Cont'd--
Failure to make
a contribution
equal to the
Normal cost
plus interest**

The failure to make a contribution at least equal to the sum of the Normal Cost plus interest on the unamortized amounts has the following effects:

1. It does not create a new base.
2. It results in an increase in the unamortized amount of each base and consequently extends the time before the base is fully amortized.
3. The limit adjustment for any base is not increased (in absolute terms) even if the unamortized amount computed exceeds the initial 10-year amortization base.

Thus, if the total unamortized amount of the plan's bases at the beginning of the plan year is \$100,000 (which is also the Unfunded Liability of the plan), and a required \$50,000 Normal Cost contribution is not made for the plan year, the following effects occur.

1. The total unamortized balance of the plan's bases increases by the \$50,000 Normal Cost for the year (adjusted for interest), plus interest on the \$100,000 balance of the bases; and,
2. because of that increase, it will take a longer period to amortize the remaining balance of the bases. (The annual amortization amount does not change.)

Continued on next page

Bases under 404, Continued**Example
Cont'd—change
in valuation
rate**

If there is a change in the valuation rate, the limit adjustment for all unamortized 10-year amortization bases must be changed, in addition to establishing a new base.

The new limit adjustment for any base is the level amount necessary to amortize the unamortized amount of the base over the remaining amortization period using the new valuation rate. The remaining amortization period of the base is the number of years at the end of which the unamortized amount of the base would be zero if the contribution made with respect to that base equaled the limit adjustment each year.

This calculation of the remaining period is made on the basis of the valuation rate used before the change. Both the remaining amortization period and the revised limit adjustment may be determined through the use of standard annuity tables. The remaining period may be computed in terms of fractional years, or it may be rounded off to a full year. The unamortized amount of the base as of the valuation date and the remaining amortization period of that base shall not be changed by any change in the valuation rate.

**Example
Cont'd—
Combining
bases**

For purposes of section 404 only (not 412), different 10-year amortization bases may be combined into a single 10-year amortization base if, at the time of the combining of the different bases:

1. The unamortized amount of the single base equals the sum, as of the date the combination is made, of the unamortized amount of the bases being combined (treating negative bases as having negative unamortized amounts).
2. The remaining amortization period of the new single base is equal to the weighted average of the prior bases remaining amortization period. The remaining amortization period described may be computed in terms of fractional years, or it may be rounded off to a whole year.

Continued on next page

Bases under 404, Continued

New Example Assume we have a plan with the following facts. There are four bases that the Actuary wishes to combine. They are as follows:

Base Est'd: For:	Year 1 Initial UFL	Year 2 Exp. Loss	Year 3 Plan Amend	Year 3 Exp. Gain
a. Base:	114,099	2,762	6,444	(3,950)

Example cont'd Note that the base being used here is the adjusted base as of the date of combining. Also note that the Gain is shown as a negative. These bases had amortizations (Limit Adjustments) of:

Base Est'd: For:	Year 1 Initial UFL	Year 2 Exp. Loss	Year 3 Plan Amend	Year 3 Exp. Gain
b. Limit Adjust':	16,813	370	863	(487)

**First step-
calculate the
remaining
years**

The first step is to calculate the remaining years, using NPER, based on the base and the limit adjustment: For example the remaining years for the Initial UFL was calculated as (NPER: .05,-16813,114099, ,1).

Base Est'd: For:	Year 1 Initial UFL	Year 2 Exp. Loss	Year 3 Plan Amend	Year 3 Exp. Gain
c. Eqiv. Years :	8	9	9	10

Next step

Once the remaining years are determined, they are weighted for the remaining balance. That is the Base is multiplied by the remaining years. The weighted average years is then determined by adding all the bases and dividing the result by the sum of the weighted amounts:

<i>Base Est'd:</i>	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>	<i>Year 3</i>	
For:	Initial UFL	Exp. Loss	Plan Amend	Exp. Gain	Total
a. Base:	114,099	2,762	6,444	(3,950)	119,355
b. Limit Adjust' :	16,813	370	863	(487)	
c. Equiv. Years :	8	9	9	10	
d. Weighted Balance (a x	912,789	24,865	58,033	(39,519)	956,168

Weighted average and new base

The weighted average years is 8.01 (956,168/119,355) which, when rounded to the nearest year is 8. The New Base of \$119,355 will be amortized over 8 years. The Temporary Annuity Factor for 8 years is 6.7864 (PV: .05,8,-1, ,1) and the new amount to be amortized is \$17,587 (119,355/6.7864).

Fresh start alternative

Instead of combining different 10-year amortization bases, a plan may replace all existing bases with one new 10-year amortization base equal to the Unfunded Liability of the plan as of the time the new base is being established. The unamortized amount of the base and the limit adjustment for the base will be determined as though the base was newly established.

Impact of full funding limit on 10 year bases

Impact of Full Funding Limit on 10 Year Bases: Where the total deductible contribution (including carryovers) for a plan year equals or exceeds the ERISA Full Funding Limit (and is contributed), then all 10 year amortization bases are considered fully amortized in that year. Subsequent years will not reflect these bases.

Where only the OBRA Full Funding Limit is exceeded a new base is created for the amount of the excess.

Where both the ERISA and the OBRA Full Funding Limits are exceeded, then all 10 year amortization bases are considered fully amortized in that year. Subsequent years will not reflect these bases.

Balance equation

The Accrued Liabilities as of the valuation date should equal the sum of the amortized bases being maintained. Remember that a "gain" base will be subtracted from the bases. Note that this will not work with Spread Gain Methods where amortized bases are not established.

Continued on next page

Bases under 404, Continued

Audit hints

The Agent should test check deduction bases to determine

1. When they were incurred
2. Whether the amount was properly calculated
3. If they were properly amortized
4. If they were properly maintained.

In addition, if the Agent comes across a base combining or fresh start he should review them to ensure they were properly calculated. Finally the Balance Equation should be checked where applicable.

Where any of the above items appear to be incorrect the Agent should ask for an explanation. If there is no explanation or it doesn't make sense the Agent should contact his Actuary.

Funding standard account

Introduction

Each plan subject to the Minimum Funding standards must set up and maintain a special account called a Funding Standard Account which provides a cumulative comparison between actual contributions and those required under the Minimum Funding standard.

Each year the Funding Standard Account is *charged* with the Normal Cost for the year and the share of actuarial liabilities that must be amortized. It is *credited* each year with the current years amortization of any decreases in the unfunded actuarial liabilities resulting from experience gains, changes in actuarial assumptions or methods, or plan amendments. See **Bases** above (or refer to IRC 412 (b)(2) & (3)) for the charges/credits to the Funding Standard Account and the number of years over which a base must be amortized.

Example illustrating funding standard account

The Actuary determined that there was a net experience loss for the plan year of \$12,000. Per IRC 412(b)(2)(B)(iv) this amount will be amortized over 5 years at the rate stated in the Funding Standard Account.

Continued on next page

Funding standard account, Continued

<i>Base Amount</i>	<i>Years</i>	<i>Interest Rate</i>	<i>Amount Amortized</i>
\$12,000	5	7.5	\$2,759

If contributions meet, exceed or is less than minimum funding standard

- If the contributions to the plan, adjusted for actuarial gains and losses, exactly meet the Minimum Funding standards, the Funding Standard Account will show a zero balance.
 - If the contributions exceed the minimum requirements, the account will have a credit balance at the end of the year available to reduce the minimum requirement for the following year.
 - If the contributions for the plan year are less than the minimum requirement, the account will show a deficiency, called the Accumulated Funding Deficiency, which will accrue interest at the valuation rate.
-

Full funding limit and split funding

The Employer is not required to contribute more than the Full Funding Limitation (see **Full Funding** above).

Note that if split funding is used, the life insurance premiums should appear as both charges and credits.

Audit tip

During the course of an audit the Agent should review the Funding Standard Account and verify the sources of any bases.

Alternative minimum funding standard account

Introduction

As an alternative to the regular Funding Standard Account, certain plans may use the Alternative Funding Standard Account.

This alternative for calculating a plan's Minimum Funding will produce a **lesser amount** for a required contribution thus avoiding potential penalties for under funding. The election to use the Alternative Minimum Funding Standard Account is at the Actuary's discretion and does not require prior approval from the Service.

If a plan elects to use this standard, a detailed worksheet must be attached to the Schedule B of Form 5500.

Continued on next page

Alternative minimum funding standard account, Continued**Rules to use the alternative minimum funding**

Certain rules apply to the use of the Alternative Minimum Funding Standard Account:

1. Only a plan using the Entry Age Normal funding method may use the Alternative Minimum Funding Standard Account. Any other method would fail to meet the “in all years” requirement under IRC 412(g)(1).
2. A plan that uses the Frozen Initial Liability method may not use the Alternative Funding Standard Account even if the method used to determine the initial Unfunded Accrued Liability was Entry Age Normal. Frozen Initial Liability with Entry Age Normal is not Entry Age Normal.
3. A plan to which IRC 412 applies must maintain a Minimum Funding Standard Account even during years when the Minimum Funding standards are determined under an Alternative Minimum Funding Standard Account.
4. When the plan switches from the Alternative Minimum Funding standard to the regular Minimum Funding standard, the excess (if any) of any debit balance in the regular Funding Standard Account over any debit balance in the Alternative Minimum Funding Standard Account is credited in the regular Funding Standard Account and also becomes an amortization charge base to be amortized over a period of 5 years at the plan valuation rate.
5. If a plan has an accumulated Funding Deficiency in excess of the Full Funding Limitation at the close of a plan year, the Funding Standard Account is credited with the amount of such excess.

Like the normal Funding Standard Account the Alternative Minimum Funding Standard Account is charged and credited with various items. The excess of the charges over the credits becomes the amount of Minimum Funding required for the year.

Continued on next page

Alternative minimum funding standard account, Continued**Charges to the alternative minimum funding standard account**

-
1. The lesser of Normal Cost:
 - a. Determined under the funding method used by the plan, or
 - b. Determined under the Unit Credit Method.
 2. The present value of accrued benefits under the plan minus the fair market value of the assets; and
 3. The excess of credits to the Alternative Minimum Funding Standard Account for all prior plan years over charges to such account for all such years.
 4. Interest on these amounts where applicable.
-

Credits to the alternative minimum funding standard account

- The credits to the Alternative Minimum Funding Standard Account are:
1. Credits from the prior year Alternative Minimum Funding Standard Account
 2. The amount considered contributed by the employer to or under the plan for the plan year.
 3. Interest on these amounts where applicable.
-

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Alternative minimum funding standard account, Continued**Additional
rules for
alternative
minimum**

For purposes of computing the deduction under section 404(a)(1)(A)(i), if the Alternative Minimum Funding Standard Account is used in both the current plan year and the immediately preceding plan year, the deductible limit, in addition to the credits/charges listed above, will be:

1. Increased by the charge under section 412(b)(2)(D), and
2. Decreased by the credit under section 412(b)(3)(D),

that would be required if in the current plan year the use of the alternative method were discontinued.

In this instance, the charge or credit being referred to is the

- 5 year amortization of the excess of any debit balance in the regular Funding Standard Account **over**
 - any debit balance in the Alternative Minimum Funding Standard Account which would occur when the plan switches from the Alternative Minimum Funding standard to the regular Minimum Funding standard.
-

Funding waivers

Introduction Where an Employer sponsoring a plan is not able to contribute the amount required to prevent a Funding Deficiency for a plan year, he may request a Waiver of Minimum Funding from the Director, Employee Plans Division (Rev. Proc. 94-41). The request for a waiver may be made up until 2 ½ months after the close of the Plan Year to which it is applied and will only be granted in cases of substantial business hardship.

If funding waiver denied If the Employer fails to secure a waiver or the Director, Employee Plans Division denies the request, the plan will have a Funding Deficiency that is subject to the 10% excise tax under IRC 4971(a).

When funding waiver can't be granted The Director, Employee Plans Division is prohibited from granting a waiver of the Minimum Funding standard with respect to a plan for more than 3 of any 15 (5 of any 15 in the case of a Multiemployer plan) consecutive plan years.

When waiver is granted When a waiver is granted, the Minimum Funding Standard Account for the plan year for which the waiver is granted is credited with the amount waived.

The amount waived must then begin to be amortized by charges to the Funding Standard Account, beginning with the year following the year for which the waiver is granted.

Where a waiver is granted and there was a prior waiver in effect, the new waiver will not include the amortization payments of any prior waivers still being amortized. Those prior amortizations will continue to apply until fully amortized.

Audit tip If there are any charges or credits to the Funding Standard Account that indicate that a waiver has been granted for the current or past years, verify that a waiver was granted.

Continued on next page

Funding waivers, Continued**Interest and amortization used for a waiver**

The interest rate and period used to determine the waiver amortization amount depend on the date the waiver was requested and the plan year it was first required to be amortized, respectively.

Interest Rates used for amortization:

1. For a waiver requested on or before 4/6/86, the interest rate is the valuation interest rate.
2. For a waiver requested after 4/6/86 and on or before 12/17/87, the interest rate is the federal short-term rate under IRC 6621(b).
3. For a waiver (non-Multiemployer) requested after 12/17/87, the interest rate is the greater of
 - a. 150% of the federal mid-term rate under IRC 1274, or
 - b. the plan rate for determining costs.
4. For a waiver (Multiemployer) requested after 12/17/87, the interest rate is the federal short-term rate under IRC 6621(b).

The following rules determine the period used for the amortization of the waiver.

1. If the waiver is first amortized in a plan year beginning before 1/1/88, then the period is 15 years.
2. If the waiver is first amortized in a plan year beginning after 12/31/87, then the period is 5 years.
3. Multiemployer plans still use a 15 year amortization period.

Continued on next page

Funding waivers, Continued**Example illustrating waiver**

A plan received a funding waiver for \$40,000 for the “1” plan year. The \$40,000 would be listed on line 9(m)(1) of the Schedule B. For the “2” plan year the \$40,000 would be amortized on line 9(c)(2).

If the rate under IRC 412(d) was 6% for year 1 and 5% for year 2, the amount to be amortized would be as follows:

For Year 1: Amount Waived:	\$40,000
Years Amortized:	5
Rate:	6 %
Temporary Annuity Factor:	4.5460 (PV: .06,5,-1, ,1)
Amount Amortized:	\$ 8,958

For Year 2 – first adjust the base:

Original Base:	\$ 40,000
Less: Prior Year Amortization:	<u>8,958</u>
Balance as of 1/1/1	\$ 31,042
Interest from 1/1/1 to 1/1/2:	<u>1,552</u>
Adjusted Base:	\$ 32,594
Years Amortized:	4
Rate:	5 %
Temporary Annuity Factor:	3.7232 (PV: .05,4,-1, ,1)
Amount Amortized:	\$ 8,754

Continued on next page

Funding waivers, Continued**Conditions for a waiver**

Where the Director, Employee Plans Division does grant a waiver, it will usually require that specific additional conditions be met. These conditions are usually designed to protect the benefit security of the participants. Some of these conditions may include:

1. Security approved by the Pension Benefit Guaranty Corporation;
2. Repayment of waived amounts over a shorter period than otherwise specified in the Code;
3. Specific required cash payments at certain specific dates; or
4. Special allocation procedures on plan termination.

If the conditions are not met the waiver will retroactively be null and void. The Funding Standard Account would have to be recomputed back to year the waiver was supposedly in effect.

Audit tip

Inspect the document granting the waiver to determine whether all the conditions contained in the document have been satisfied.

Generally, the waiver will remain in force as long as the conditions are met. If the terms of the waiver have not been followed, the waiver becomes retroactively null and void. Thus, the amounts owed for all plan years will be recomputed as if the waiver never existed.

Continued on next page

Funding waivers, Continued**Restrictions on waivers—no plan amendment to increase benefits**

IRC 412(f) provides that, with certain exceptions, a waiver will cease to apply if the plan is amended while the waiver is being amortized and plan liabilities increase as a result of the amendment. This could happen if the plan amendment increases benefits through a change in benefit accrual or a change in the rate at which plan benefits become nonforfeitable. If a plan is so amended during a plan year, the full remaining balance of the waiver becomes a charge in the Funding Standard Account.

There are certain **exceptions** to this rule where the plan sponsor has requested and received a ruling that the changes are reasonable and the increased liability is de minimis in amount (Rev. Rul. 79-407 & Rev. Proc. 79-62). If such a ruling letter was received and is being followed, the amendment will not adversely affect the amortization of the waiver.

Example illustrating amendment

In a post 1987 Plan Year a plan requests and receives a waiver of Minimum Funding. Five years later the plan is amended to change from a graded to a full & immediate vesting schedule. They do not get a ruling that the changes are reasonable and the increased liability is de minimis in amount.

Since the vesting schedule change will result in increased plan liabilities, the full remaining balance of the waiver is charged to the Funding Standard Account.

Example illustrating amendment

In a post 1987 Plan Year a plan requests and receives a waiver of Minimum Funding. The Plan uses the fractional rule for determining benefit accrual and defines a benefit year of service as a plan year in which the participant completes 2,000 hours of service. Three years later the plan is amended to provide that a participant will accrue a benefit year of service if he completes 1,000 in the plan year.

This change, on its face, would appear to increase the plan's liability. What if, however, as a result of the change no additional benefits accrue?

The Employer could argue that since no additional benefits accrued the amendment does not violate IRC section 412(f)(1).

Continued on next page

Funding waivers, Continued**Example—
illustrating
amendment**

In a post 1987 Plan Year a plan requests and receives a waiver of Minimum Funding. The Plan uses the fractional rule for determining benefit accrual and defines a benefit year of service as a plan year in which the participant completes 1,000 hours of service.

Three years later the plan is amended to provide that a participant will accrue a benefit year of service based on the elapsed time method.

Since the actual hours of service and the elapsed time method are considered comparable this amendment does not result in the increase of plan liabilities.

Audit tip

Verify that, if the plan has a waiver in effect, the conditions have been met and the amortization charge has been correctly calculated. If the Plan is amended during the amortization period after the year for which the waiver is granted, verify that the amendment will not result in increased plan liability.

If it does result in an increase, verify that a specific ruling was requested (and received) which states that the changes were reasonable and the increased liability was de minimis.

Additional funding requirements

Introduction

There are additional funding requirements under IRC section 412(l) that apply **for certain plans** that have an Unfunded Current Liability.

This additional funding requirement may apply if the plan:

1. is not a Multiemployer plan;
2. has more than 100 participants (in all defined benefit plans of the employer or controlled group) on any day of the preceding plan year;
3. has an Unfunded Current Liability, and
4. the plan fails the Gateway Test.

If the plan has more than 100 participants but less than 150 participants, the additional funding requirement is multiplied by 2% times the highest number of participants in excess of 100 on any day of the preceding plan year.

Gateway test

These additional funding requirements do not apply if:

1. A plan's "Gateway percent" is at least 90%, or
2. The "Gateway percent" is at least 80% and The "Gateway percentages" for two consecutive plan years out of the last three plan years were at least 90%.

A plan's "Gateway percent" is equal to the actuarial value of assets (unreduced by any credit balance) divided by the Current Liability computed with the highest allowable interest rate.

Additional funding required

The additional funding charge for a plan year is equal to:

1. The excess of the deficit reduction contribution (DRC) over the sum of the charges for such plan year under IRC 412(b)(2) reduced by the sum of the credits for such plan year under IRC 412(b)(3)(B), plus
 2. The unpredictable contingent event amount (if any) for such plan year.
-

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Additional funding requirements, Continued**Deficit reduction contribution defined**

The deficit reduction contribution is the sum of:

1. The unfunded old liability amount (e.g., unfunded old liability amount plus additional unfunded old liability amount),
2. The unfunded new liability amount,
3. The expected increase in Current Liability due to benefits accruing during the plan year, and
4. The aggregate of the unfunded mortality increase amounts.

Defining unfunded old liability

The unfunded old liability is the unfunded Current Liability as of the beginning of the first plan year beginning after December 31, 1987, (determined without regard to amendments increasing liabilities adopted after October 16, 1987).

The unfunded old liability amount is the amount required to amortize the unfunded old liability over 18 years. It may also include unfunded existing benefit increase liabilities under existing collective bargaining agreements, amortized over 18 years beginning with the plan year in which the benefit increase occurs.

If the plan's assets become greater than the plan's Current Liability, then the old liability amount is considered fully funded.

Unfunded old liability amount is increased by "additional unfunded old liability"

The unfunded old liability amount is increased by the amount necessary to amortize the additional unfunded old liability (defined below) over 12 years beginning with the first plan year after December 31, 1994.

Employers may irrevocably elect an optional rule for the additional unfunded old liability, in which the entire increase in Current Liability attributable to plan years before 1995 is amortized over 12 years.

Continued on next page

Additional funding requirements, Continued**Defining additional unfunded old liability**

The additional unfunded old liability is the amount by which the “RPA ’94 Current Liability” exceeds the “OBRA ’87 Current Liability”, where:

1. The RPA ’94 Current Liability is the Current Liability as of the beginning of the 1995 plan year, valued using the assumptions required by IRC 412(l)(7)(C) as in effect for plan years beginning after 1995, and
2. The OBRA ’87 Current Liability is the Current Liability as of the beginning of the 1995 plan year, valued using the prior interest rate and the mortality assumptions that were used to determine Current Liability for plan years beginning in 1993.

Unpredictable contingent event can affect the additional funding requirement

If an unpredictable contingent event occurs, an additional amount is added to the net deficit reduction contribution amount to determine the additional funding requirement.

An unpredictable contingent event benefit is a benefit that is not contingent on age, service, compensation, death, disability or an event that is “reasonably and reliably predictable.”

The most common example is shutdown benefits.

“Early window benefits” are not considered to be unpredictable contingent event benefits.

Continued on next page

Additional funding requirements, Continued**Determining the unpredictable contingent event**

The unpredictable contingent event amount is equal to the greater of:

1. $(100\% - \text{FCL}\%)$ times the amount of unpredictable contingent event benefits paid during the plan year (where FCL% is the Funded Current Liability percent) and further multiplied by the applicable percentage under IRC 412(l)(5)(B). *(For plan years beginning in 2001 and thereafter, such applicable percentage is 100%)*
2. The unpredictable contingent event benefit liabilities amortized over 7 years or
3. The additional unfunded new liability amount that would have been determined if the unpredictable contingent event benefit liabilities were included in unfunded new liability.

The unpredictable contingent amount is not more than the outstanding amount of the liability being amortized.

Defining unfunded new liability

The unfunded new liability is the Unfunded Current Liability determined without regard to the:

1. unamortized portion of the unfunded old liability,
2. unamortized portion of the additional unfunded old liability,
3. unamortized portion of each unfunded mortality increase,
4. unamortized portion of the unfunded existing benefit increase liability, and
5. liability with respect to any unpredictable contingent event benefits (without regard to whether the event has occurred).

The unfunded new liability amount is the applicable percentage of the unfunded new liability.

The applicable percentage is $30\% - [0.40 \text{ times } (\% \text{ (if any) by which FCL\% exceeds } 60\%)]$ where FCL% is the Funded Current Liability percent. Thus, if the Funded Current Liability percent is 60% or less, then 30% of the unfunded new liability is included in the deficit reduction contribution calculation.

Continued on next page

Additional funding requirements, Continued**Defining the unfunded mortality increase**

The unfunded mortality *increase* is the excess of:

1. Current Liability for the first year for which a plan uses any new mortality table issued under RPA '94, over
2. Current Liability for such plan year that would have been determined if the mortality table in effect for the proceeding plan year had been used.

The unfunded mortality increase *amount* is the amount necessary to amortize an unfunded mortality increase over 10 years from the date established.

Special rules-alternative method of computing additional funding charge

In any year up to the year 2001, the Employer may elect an alternative method of computing the additional required funding charge under the phase-in rule of IRC 412(l)(11). (See Rev. Rul. 96-21 for guidance.)

Rev. Rul. 96-20 provides guidance on the requirements for the establishment and maintenance of certain amortization bases under IRC 412(l). If the plan's assets become greater than the plan's Current Liability, then the old liability amount is considered fully funded.

For purposes of determining the Unfunded Current Liability, the plan's assets are reduced by any credit balance in the Funding Standard Account.

For purposes of determining the liquidity shortfall, disbursements from the plan include all disbursements from the trust including purchase of annuities, payments of single sums and other benefits, and administrative expenses.

Quarterly contribution requirement

Introduction-background of deadline for contributions

We previously noted that, in order to be timely for Minimum Funding purposes contributions must be made no later than 8 ½ months after the end of the plan year.

We also discussed how a contribution is not considered timely made unless it is paid to the proper recipient as opposed to some intermediary.

While, for Minimum Funding purposes, contributions should be paid within 2 ½ months after the close of the plan year, IRC 412(c)(10) provides an automatic extension of 6 months. This extension does not apply to deductions under IRC section 404.

Quarterly installments under section 412(m)-plans not subject

IRC section 412(m) provides that quarterly installments of the contributions may be required for defined benefit plans.

Quarterly installments **are not** required for:

1. Multiemployer plans
 2. Plans with no Unfunded Current Liability in the prior plan year, or
 3. Money purchase plans
-

When installments are due

For plans subject to IRC section 412(m), the required installments are due on the 15th day of the month following the end of each Plan quarter. For calendar year plans, the due dates are April 15, July 15, October 15 of the current year and January 15 of the following year.

If a required installment is not made on time, a late interest charge is calculated and charged to the Funding Standard Account. (See **Interest Charge** below.)

Continued on next page

Quarterly contribution requirement, Continued**Computation of quarterly amount**

The amount of each required installment is 25% of the required annual payment.

The required annual payment is the lesser of:

1. 90% of the amount required to be contributed for the current year, determined as of the beginning of the plan year; or
2. 100% of the amount so required for the prior year, determined as of the end of the prior plan year.

(Note: This does not apply if the preceding year was not a 12 month year.)

The amount required to be contributed is determined without regard to any waiver in effect. Overpayment of a quarterly installment may be used to reduce the payments necessary to satisfy subsequent quarterly installments. A credit balance that exists as of the beginning of the plan year may be treated as a payment of a quarterly installment.

Required installments are increased by the “greatest of” the following items

The required installments are increased by the greatest of:

1. The unfunded percentage (i.e., 100% - FCL%) times the amount of such benefits paid during the three month period;
2. 25% of the unpredictable contingent event benefit liabilities amortized over 7 years; or
3. 25% of the additional unfunded new liability amount that would have been determined if the unpredictable contingent event benefit liabilities were included in unfunded new liability.

Liabilities of a plan which are not taken into account

The Liabilities of a Plan, which is due to any unpredictable contingent event benefit, are not taken into account in determining the required annual payment.

Liquidity shortfalls and quarterly contributions

Introduction

Plans subject to the quarterly contribution requirement that have 100 or more participants which have a liquidity shortfall (as defined in IRC 412(m)(5)(E)) are subject to the liquidity requirement of IRC 412(m)(5).

Under this requirement, a plan is treated as failing to pay the full amount of any required installment to the extent that the amount paid (in liquid assets) is less than the liquidity shortfall. This is the case whether or not the liquidity shortfall exceeds the amount of the required quarterly installment.

Thus, for plans subject to IRC 412(m) which have a liquidity shortfall, the quarterly payment requirement is treated as not satisfied for a quarter unless the quarterly payment satisfies both the quarterly contribution requirement and is at least equal to any liquidity shortfall under the plan for that quarter.

If quarterly amount is less than liquidity shortfall

Where the amount contributed by the due date for a quarter is less than the liquidity shortfall for the quarter, the difference between:

1. The liquidity shortfall and
2. The amount paid (but not more than the amount determined under IRC 412(m)(5)(D))

is treated as an underpayment of the quarterly contribution.

Interest charged to the funding standard account

The rate of interest charged to the Funding Standard Account under IRC 412(b)(5) with respect to such underpayment amount for the period of the underpayment is equal to the greater of:

1. 175% of the federal mid-term rate (as in effect under IRC 1274 for the 1st month of such plan year); or
 2. The rate used to determine RPA '94 Current Liability (stated in IRC 412(m)(1)(B) as the rate of interest used under the plan in determining costs, including adjustments under IRC 412(b)(5)(B)).
-

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Liquidity shortfalls and quarterly contributions, Continued**Liquidity requirement is not a charge to the funding standard account**

The liquidity requirement of IRC 412(m)(5) is not a “charge” that is applied to the plan’s Funding Standard Account. Therefore, the liquidity requirement does not increase the Minimum Funding requirement of the plan. If the employer fails to make a required liquidity payment, such failure by itself does not create an accumulated Funding Deficiency.

If liquidity shortfall is not corrected within timeframe

If the liquidity shortfall is not corrected within the allowed time-frame, there are two main consequences.

1. There are excise taxes that are imposed under IRC 4971(f).
 - a. There is a 10% first tier tax that is imposed on the amount of the uncorrected liquidity shortfall for each quarter, and
 - b. There is a 100% second tier tax that is imposed if the liquidity shortfall for a quarter is not corrected within the next five plan quarters.
2. If the liquidity shortfall is not corrected within the time allowed, the plan fiduciaries are prohibited from making any:
 - a. Single-sum distributions,
 - b. Payment in excess of the monthly amount paid under a single life annuity, or
 - c. Purchase of annuity benefits from an insurer.

Members of the employer’s controlled group are jointly and severally liable for excise taxes imposed under IRC 4971(f).

Secretary can waive liquidity requirement

IRC section 4971(f)(4), (added by the SBJPA), authorizes the Secretary to waive the liquidity shortfall excise taxes if the liquidity shortfall is due to “reasonable cause and not willful neglect”, and “reasonable steps have been taken to remedy such liquidity shortfall”.

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Liquidity shortfalls and quarterly contributions, Continued**Interest charge for not fully paying quarterly installments**

Failure to pay the full amount of a required quarterly installment results in an additional interest charge to the Funding Standard Account. The interest rate charged is the greater of

1. 175% of the federal mid-term rate (as in effect under section 1274 for the first month of the plan year), or
2. The interest rate used to determine the Current Liability. See IRC 412(m)(l).

Interest is charged from the due date of the installment until the date such installment is actually paid.

Example illustrating quarterly contribution

An Employer maintains a qualified defined benefit plan. For the purposes of this example, assume the following facts:

1. The plan is not a Multiemployer Plan.
2. The plan has 100 or more participants.
3. The plan had an Unfunded Current Liability in the Prior Plan Year.
4. The Plan Year is a calendar year with a valuation date of 1/1.
5. There are no waivers, unpredictable contingent events or liquidity short fall issues in the year.
6. The required contribution this year (1/1/2) is \$40,000 and was \$35,000 last year (1/1/1).
7. The Prior Year has a credit balance of \$5,398 as of 1/1/2.
8. Interest under the Plan is 5%.
9. Contributions were \$8,000 made on each quarter (4/15/2, 7/15/2, 10/15/2 & 1/15/3).

Based on the above facts there would be no interest charge.

First you need to calculate the Required Annual Payment as follows:

Continued on next page

Liquidity shortfalls and quarterly contributions, Continued

a. Required Prior Year Contribution:	\$35,000
b. Interest on "a" from 1/1/01 to 1/1/02:	1,750
c. Total (a + b):	36,750
d. Required Current Year Contribution:	40,000
e. 90 % of d:	36,000
f. Lessor of c or e:	36,000
g. Quarterly Contributions (f x 25 %):	9,000

Determining the credit balance—first quarter

Now you need to determine if the Credit Balance (or contribution carry forward) plus the contributions will be sufficient to cover the quarterly contribution requirement. In the first quarter:

a. Required Quarterly Contribution:	\$9,000
b. Credit Balance 1/1/02:	5,398
c. Timely Contribution (4/15/02):	8,000
d. Total Credited to Quarter:	13,398
e. Late Paid ((a – d) Positive amount only):	0
f. Over paid in Quarter (d - a):	4,398

Example—illustrating Second quarter

So as of 4/15/02 not only was the quarterly payment made, but \$4,398 is credited to the next quarterly payment. In the second quarter:

a. Required Quarterly Contribution:	\$9,000
b. Credit from 1st quarter:	4,398
c. Timely Contribution (7/15/02):	8,000
d. Total Credited to Quarter:	12,398
e. Late Paid ((a – d) Positive amount only):	0
f. Over paid in Quarter (d - a):	3,398

Continued on next page

Liquidity shortfalls and quarterly contributions, Continued

Second quarter cont'd As of 7/15/02 the quarterly payment was made and \$3,398 is credited to the next quarterly payment.

Third quarter In the third quarter:

a. Required Quarterly Contribution:	\$9,000
b. Credit from 2nd quarter:	3,398
c. Timely Contribution (10/15/2):	8,000
d. Total Credited to Quarter:	11,398
e. Late Paid ((a – d) Positive amount only):	0
f. Over paid in Quarter (d - a):	2,398

Third quarter cont'd As of 10/15/02 the quarterly payment was made and \$2,398 is credited to the next quarterly payment.

Last quarter In the last quarter:

a. Required Quarterly Contribution:	\$9,000
b. Credit from 2nd quarter:	2,398
c. Timely Contribution (1/15/3):	8,000
d. Total Credited to Quarter:	10,398
e. Late Paid ((a – d) Positive amount only):	0
f. Over paid in Quarter (d - a):	1,398

No interest charge for each quarter Since the required quarterly contribution was made in each of the quarters there is no interest charge for late quarterly payments.

Example

Assume all the same facts as in the previous example except that there is a liquidity shortfall and the short fall payment is \$11,000 a quarter. Under this scenario problems do not occur until the 4th quarter. Prior to that the combination of credits from prior quarters and actual contributions exceed \$11,000.

In the 4th quarter they are only \$10,398. The difference of \$602 is deemed not to be timely paid for the purposes of the required quarterly contributions and will generate an interest in the Funding Standard Account.

Audit tips

Verify that, if the quarterly contribution requirement has not been met, the additional interest charge has been correctly calculated. For assistance with the calculation of the additional interest charge, Agents should contact their local District Actuary.

If the timely contributions are insufficient to meet the Minimum Funding standard, including any late quarterly contribution interest charge and all other applicable special charges, an accumulated Funding Deficiency results and the Minimum Funding penalties should be applied.

Change in funding method

Introduction

IRC section 412(c)(5)(A) provides that a change in a plan's funding method can only become effective if the change is approved by the Secretary.

Under Regulation section 1.412(c)(1)-1, the term "funding method" means not only the actuarial cost method, but it also includes each specific method of computation used in applying the overall method. It therefore includes:

1. the date on which assets and liabilities are valued (the valuation date), and
 2. the definition of compensation which is used to determine the Normal Cost or Accrued Liability.
-

**Background—
revenue
procedures**

Over the years various Revenue Procedures were published which granted approval for certain changes in the funding method.

The Revenue Procedure is 2000-40. A copy of this procedure is attached as an Exhibit to this Chapter.

The Procedure is effective for plan years commencing on or after January 1, 2000. Rev. Proc. 95-51, as clarified and modified by Rev. Proc. 98-10 and Rev. Proc. 99-45, is superseded by Rev. Proc. 2000-40.

Rev. Proc. 2000-41 provides the procedure by which a plan administrator or plan sponsor may obtain approval of the Secretary of the Treasury for a change in the funding method that is not covered by Rev. Proc. 2000-40.

**Automatic
approval for a
change in
funding method**

Section 3 of the Rev. Proc. 2000-41 provides for automatic approval for 16 changes in funding methods. These changes are subject to the general applicability restrictions of section 6 of the Procedure and to the individual conditions under approval.

Continued on next page

Change in funding method, Continued**Automatic
change to the
following
methods**

The following Approvals allow changes in the funding method to the ones indicated:

1. Approval 1 – to the Unit Credit funding method.
2. Approval 2 - to the level percent of compensation Aggregate funding method.
3. Approval 3 – to the level dollar Aggregate funding method.
4. Approval 4 – to the level percent of compensation Individual Aggregate funding method.
5. Approval 5 – to the level dollar Individual Aggregate funding.
6. Approval 6 – to the level percent of compensation Frozen Initial Liability funding method.
7. Approval 7 – to the level dollar Frozen Initial Liability funding method.
8. Approval 8 – to the level percent of compensation individual Entry Age Normal funding method.
9. Approval 9 – to the level dollar Individual Entry Age Normal funding method.

Each “Approval” indicates what conditions must be met, how Normal Cost will be calculated and, where applicable, how Accrued Liability will be calculated. In addition they state how asset allocations will be adjusted and what bases will be created (if applicable).

Continued on next page

Change in funding method, Continued**Following approvals deal with assets**

The following Approvals deal with Assets:

1. Approval 10 allows for a change in asset valuation method to fair market value as defined in section 1.412(c)(2)-1(c) of the regulations
2. Approval 11 allows for a change in asset valuation method to the average value as defined in §1.412(c)(2) -1(b)(7) (which does not have a phase-in), or to any alternative formulation that is algebraically equivalent to this average value.
3. Approval 12 allows for a change in asset valuation method to the average value (as defined in §1.412(c)(2) -1(b)(7)), modified to use the phase-in described in the section or to any alternative formulation that is algebraically equivalent to this average value.
4. Approval 15 allows for a change in asset valuation method to the smoothed market value (without phase-in) or to any alternative formulation that is algebraically equivalent to this smoothed value.
5. Approval 16 allows for a change in asset valuation method to the smoothed market value (with phase-in), or to any alternative formulation that is algebraically equivalent to this smoothed value.
6. Approval 17 allows for a change in asset valuation method to the average value (as defined in §1.412(c)(2) -1(b)(7)), modified to use the alternative phase-in, or to any alternative formulation that is algebraically equivalent to this average.

Points about changes

Note that for items 2 to 6 above, the asset value determined under the method will be adjusted to be no greater than 120% and no less than 80% of the fair market value defined in §1.412(c)(2) -1(c).

Approval 13 allows for a change in the valuation date to the day that is the first day of the plan year.

Approval 14 allows for a change in the funding method used for valuing ancillary benefits to the funding method used to value retirement benefits.

Continued on next page

Change in funding method, Continued**Special approvals**

SPECIAL APPROVALS: Section 4 of the Procedure contains the following special approvals:

1. Approvals to Remedy Unreasonable Allocation of Costs.
 2. Approval for Change in Funding Method for Fully Funded Terminated Plans.
 3. Approval for Takeover Plans.
 4. Approval for Change in Valuation Software.
 5. Approval for De Minimis Mergers.
 6. Approval for Certain Mergers With Same Plan Year And Merger Date of First or Last Day of Plan Year.
 7. Approval for Certain Mergers With Transition Period No More Than 12 Months.
 8. Approval for Other Mergers With Transition Period More Than 12 Months.
-

General rules for approval for a change in funding method

Introduction The Approval for a change to any method in the Revenue Procedure does not apply unless the following provisions are satisfied:

Amortization bases In the case of a plan which, prior to a change in funding method, has

1. a funding waiver base,
2. a base due to a switchback to the regular Funding Standard Account,
3. a shortfall base, or
4. a transition base,

the current funding method, regardless of any other characteristics, must:

- maintain such base(s) as if the funding method had not changed and
- must charge, or credit, the Funding Standard Account with the amortization charge(s), or credit(s), for such base(s) after the change in funding method.

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General rules for approval for a change in funding method,

Continued

Existing base shall be maintained and a new amortization base created

Except in the case of a change to a funding methods listed below, all existing bases shall be maintained and an amortization base shall be established equal to the difference between

1. the Unfunded Accrued Liability under the new method and
2. an amount equal to
 - a. the net sum of the outstanding balances of all amortization bases (including, when the preceding method was an immediate gain method, the gain or loss base for the immediately preceding period), treating credit bases as negative bases, less
 - b. the Credit Balance (or plus the Funding Deficiency), if any, in the Funding Standard Account, less
 - c. the sum of:
 - i) Any existing accumulation of additional funding charges for prior plan years due to §412(l),
 - ii) Any existing accumulation of additional interest charges due to late or unpaid quarterly installments for prior plan years, and
 - iii) any existing accumulation of additional interest charges due to the amortization of prior funding waivers (which sum can be found on the Schedule B, for example, in 1997 on Line 9q(4)),

This is all adjusted for interest at the valuation rate to the valuation date in the plan year for which the change is made. If this difference is a positive or negative number, the resulting base will be a charge base or a credit base, respectively.

Amortization period is 10 years

For any charge or credit base established pursuant to the requirements of the block above, the amortization period is 10 years.

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General rules for approval for a change in funding method,

Continued

For changes in funding methods listed directly below

In the case of a change to a funding method described below

- the bases described in paragraph above in “Amortization Bases” must be maintained, and
- All amortization bases other than those described above shall be considered fully amortized.

Changes in funding method

For the purposes of this section, the changes in funding method referred to in the block above are:

- (1) Approval 1 – for change to the Unit Credit funding method.
- (2) Approval 2 - for change to the level percent of compensation Aggregate funding method.
- (3) Approval 3 – for change to the level dollar Aggregate funding method.
- (4) Approval 4 – for change to the level percent of compensation Individual Aggregate funding method, and
- (5) Approval 5 –for change to the level dollar Individual Aggregate funding.

No base is established due solely to a change in valuation date

No base is established due solely to a change in the valuation date.

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General rules for approval for a change in funding method,

Continued

Compensation issues

Although compensation must be limited in accordance with section 401(a)(17) in determining benefits to be valued, it may or may not be so limited in determining the present value of future compensation expected to be paid to the participant for each year of the participant's anticipated future service. However, the alternative used is part of the method and any change in such practice is a change in funding method.

Whenever, under the funding method, the Normal Cost is calculated as a level percentage of compensation, then an individual's compensation is included in the amount of current year's compensation to which the Normal Cost percentage is applied if and only if the compensation for that individual is included in the present value of future compensation over which Normal Costs are spread.

Similarly, whenever the Normal Cost is calculated as a level dollar amount, then an individual is included in the determination of the number of individuals by which the Normal Cost per participant is multiplied if and only if that individual is included for purposes of determining the present value of an annuity of \$1 for years of anticipated service over which Normal Costs are spread.

General Restrictions

Introduction

Section 6 of the procedure provides the following restrictions. The Rev. Proc. does not apply in the following situations:

**Situation 1-
Rev. Proc. does
not apply**

The ReTo a change in funding method for a plan year if either:

- A. a Schedule B of Form 5500 has been filed for such plan year using some other funding method or
 - B. the due date (including extensions) for such Schedule B has passed
-

**Situation 2-
Rev. Proc. does
not apply**

The Rev. Proc. does not apply unless the plan administrator or an authorized representative of the plan sponsor indicates as part of the series Form 5500 for the plan year for which the change is effective that the plan administrator or plan sponsor agrees to the change in funding method.

**Situation 3,
Rev. Proc. does
not apply**

If, for the plan year of the change,

- a Minimum Funding waiver under section 412(d) has been requested for the plan or is being amortized, or
 - if an extension of an amortization period under section 412(e) has been requested or is currently applicable for computing Minimum Funding requirements, for the plan.
-

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General Restrictions, Continued

Situation 4

If :

- the plan is under an Employee Plans examination for any plan year, or
 - the plan sponsor, or a representative, has received verbal or written notification from the Tax Exempt and Government Entities Division of an impending Employee Plans examination, or
 - the plan sponsor, or a representative, has received verbal or written notification of an impending referral from another part of the Service for an Employee Plans examination, or
 - if the plan has been under such an examination and is in Appeals or in litigation for issues raised in an Employee Plans examination.
-

**Situation 5-
Rev. Proc. does
not apply**

To a change which is made for a plan year in which the plan is terminated, except as provided under section 4.02 of the Procedure, Approval for Change In Funding Method for Fully Funded Terminated Plans.

**Situations 6,
Rev. Proc. does
not apply**

If the current method makes use of the shortfall method, approval to change to another funding method under this Revenue Procedure will apply only if the new funding method continues to make use of the shortfall method.

For example, approval is not granted to change from the Entry Age Normal method (which uses the shortfall method) to the Unit Credit method under Approval 1, unless the Unit Credit method makes use of the shortfall method

Additional Restrictions for approval

Situation 1 The Revenue Procedure does not apply to changes in funding method required by Treasury Release R-2697 dated May 24, 1984, concerning the reversion of assets from a terminated plan. Furthermore, Approvals under section 3 do not apply if, in the 15 years preceding the date of change, such plan was involved in a transaction described in such Treasury Release subsequent to May 24, 1984.

Situation 2 Approval to change to a method described in section 3 does not apply in the case of a plan for which some of the assets are provided through universal life insurance policies unless, under the funding method adopted, (a) all plan benefits including those provided by the universal life insurance policies are considered liabilities in calculating costs and are funded using the same method as used for retirement costs, and (b) the cash value as of the valuation date of such contracts is treated the same as all other assets of the plan in calculating costs. However, the requirements of (a) above will not fail to be satisfied merely because ancillary benefits, within the meaning of section 1.412(c)(3)-1(f)(2) of the regulations, are funded on a reasonable one-year term funding method.

Situation 3 Approval to change to a method described in section 3 does not apply to any of the following changes:

- (a) the asset valuation method is being changed and the asset valuation method was changed in any of the four (4) preceding plan years,
 - (b) the valuation date is being changed and the valuation date was changed in any of the four (4) preceding plan years, or
 - (c) the funding method is being changed in a way not described in (a) or (b), and a funding method change (other than a change for which approval is provided by section 4 of the Revenue Procedure, or a change described in (a) or (b)) was made in any of the four (4) preceding plan years.
-

Situation 4 Approval to change to a method described in section 3 does not apply to a change in funding method under which the liabilities are adjusted to reflect the performance or expected performance of the assets.

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Additional Restrictions for approval, Continued

Situation 5 Approval to change to any method described in sections 3.02 through 3.09, does not apply if a plan provides that no participant may accrue a benefit as of a date that is no later than the first day of the plan year. In such a case, approval to change to the method described in section 3.01 applies only as described in section 4.02(5).

Situation 6 Approval to change to a method described in section 3 does not apply if, after the change in method, a negative Normal Cost exists. Also, approval to change to a method described in section 3 does not apply if, after the change in method, a negative Unfunded Liability exists, and the method (a) is a Spread Gain Method, and (b) uses an Unfunded Liability in determining the Normal Cost. For purposes of the preceding sentence, a Spread Gain Method is any method that does not directly calculate an Accrued Liability. See Rev. Rul. 81-13 for whether a funding method directly calculates an Accrued Liability.

Situation 7 Approval to change to a method described in section 3 does not apply if the funding method for a plan year is being changed in connection with a plan spin-off or merger unless the change is made as provided in 4.05, 4.06, 4.07, or 4.08.

Failure to secure approval**Introduction**

If a plan:

1. fails to meet any of the requirements needed for automatic approval of a change in the funding method under Rev. Proc. 2000-41, or
2. requests approval for a change in the funding method under Rev. Proc. 2000-40 but is declined,

then the actuarial valuation must be completed as if the change never took place.

Continued on next page

Failure to secure approval, Continued

Example

A plan has a valuation date of 12/31. In year 5 the Actuary changes the valuation date to 1/1/5. The change meets the requirements of section 3.14 of Rev. Proc. 2000-41. The change otherwise meets the general requirements for section 5 of the Rev. Proc. On 6/3/6 the Taxpayer files Form 5500 with the attached schedule B for the 12/31/5 plan year. On 6/30/6 the Actuary realizes that the valuation date shown on the Schedule B is 12/31 and not 1/1 as changed. The Taxpayer files an amended Form 5500 Schedule B by 7/15/6 showing the changed valuation date.

Technically Rev. Proc. 2000-41 cannot be applied and automatic approval is not granted. Under section 6.01(1), the filing of the Schedule B with the original valuation date sets it as an “other funding method”. This would appear to be so even though the return was amended before its due date.

Lump sum distribution

Calculation of accrued benefit

In order to determine if a participant’s lump sum distribution is correct, you must first determine his/her projected, accrued and vested accrued benefits. One of the first steps we advised was to secure and review a copy of the plan and any amendments.

Agent should review specific plan provisions and test check

The Agent should review the plan for the following provisions:

1. The Benefit Formula
2. The Accrual Method used
3. The Vesting Schedule
4. The definition of year of service for vesting purposes, and
5. The definition of year of participation for benefit accrual purpose.

Once these items are identified the Agent should test check the distributions of several participants. The review should verify each component of the calculation.

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Lump sum distribution, Continued

Benefit formula The Agent should pay particular attention to any changes in the plan's benefit formula, including any changes which can result in a reduction in an accrued benefit prohibited under IRC section 411(d)(6). This will include not only changes in the benefit formula its self but also any changes in the interest or mortality assumptions used to determine "Actuarial Equivalent" benefits.

Example A Career Average Unit Credit Plan provides a benefit equal to 5 % of current year compensation and full & immediate vesting. The Plan is amended 12/31/5, effective the first day of the next plan year (1/1/6) to provide a benefit equal to 3 % of current year compensation.

This reduction does not violate IRC section 411(d)(6) since it is a Career Average Plan. It is only the future accruals that are being reduced. Suppose he had compensation of \$30,000 each year, his benefit would be calculated as follows—see table below.

Note that his Accrued Benefit as of 12/31/5 is \$7,500 a year and as of 12/31/6 it is \$8,400.

<i>Year</i>	<i>Projected Benefit</i>	<i>Accrued Benefit</i>
1	1,500	1,500
2	1,500	3,000
3	1,500	4,500
4	1,500	6,000
5	1,500	7,500
6	900	8,400

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Lump sum distribution, Continued**Example**

Use the same facts as Example 32 except that instead of a career average the plan is a regular Unit Credit Plan that uses the fractional rule. Also assume that the participant has four more years to retirement after year six (for a total of 10 years).

Under the old formula the participant's projected benefit at retirement was \$15,000 ($\$30,000 \times 5\% \times 10$ years). His Accrued benefit as of the end of the 5th year is \$7,500.

At the end of the 6th year, however, his projected benefit is \$9,000 ($\$30,000 \times 3\% \times 10$), but his accrued benefit is only \$5,400 ($\$9,000 \times 6/10$). This would clearly violate IRC section 411(d)(6).

Example

So that the only item we are dealing with is interest, let's assume the participant's vested accrued benefit is a life annuity of \$90,000 per year and the Annuity Purchase Rate is 10. The Participant retires in year 2, when he still has 10 years to Normal Retirement Age of 65. In year 1 the Pre-retirement interest rate used to determine a lump sum distribution was 5%. In year 2 it was increased to 6%. The distribution the participant received was \$502,555.

Based on the above facts a violation of IRC section 411(d)(6) has occurred. Remember that the participant is entitled to his vested accrued benefit. At 65 he was entitled to \$90,000 a year, or a lump sum value of \$900,000. Since he is not at retirement age, that \$900,000 has to be discounted to its present value as of his attained age. At age 54 (12/31/1) his lump sum accrued benefit was \$526,211 ($\$900,000 \times (1.05^{-11})$).

At age 55 his lump sum accrued benefit was \$502,555 ($\$900,000 \times (1.06^{-11})$). Since the amount at 54 is less than what he was entitled to in the prior year a 411(d)(6) violation has occurred.

Audit tip

Increases in the pre retirement interest rate or decreases in the post retirement interest rate will generally result in decreased benefits. The Agent should review the Plan to determine if there have been any changes in the interest or mortality used to determine alternative benefit forms.

Continued on next page

Lump sum distribution, Continued

Year of participation

Introduction Benefit Accruals are based on the employees Years of Participation, sometimes called Benefit Years of Service. Do not confuse Years of Participation with Years of Service as used for eligibility and vesting. They are generally not the same.

DOL 2530.202-2(a), year of service for eligibility Department of Labor Regulations section 2530.202-2(a) requires that the initial Year of Service for eligibility purposes is the 12 month period beginning with the participant's first hour of service.

The Plan can then either continue to use that initial computation period for all subsequent Years of Service or it can provide that the second Year of Service will be based on the Plan Year that commences within the initial period.

Defining a year of service A year of service is an eligibility computation period in which the employee completes 1,000 hours of service (or the equivalent elapsed time).

Vesting computation period- 2530.203-2(a) Under Department of Labor Regulations section 2530.203-2(a) a plan may designate any 12 month period as the vesting computation period provided it is uniformly applied to all participants and doesn't result in artificial vesting. A year of service is a vesting computation period in which the employee completes 1,000 hours of service (or the equivalent elapsed time).

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Year of participation, Continued

**Accrual
computation
period-
2530.204-2(a)**

Department of Labor Regulations section 2530.204-2(a) provides that a plan may designate any 12-consecutive-month period as the accrual computation period except that the period so designated must apply equally to all participants.

This requirement may be satisfied even though the actual time periods are not the same for all participants.

For the purposes of determining years of participation all service from the date of participation in the plan as determined in accordance with applicable plan provisions are taken into account.

When the plan documents do not provide a definite means for determining the date of commencement of participation, the date of commencement of employment covered under the plan during the period that the employer maintained the plan shall be the presumed date that plan participation commenced.

Additional rules for year of participation

**Partial year of
credit**

Partial year credit for a 12 month computation period in which the employee fails to complete 1,000 hours of service is not required to be counted.

**Hours of
service
requirement**

A plan may require up to 2,000 hours of service to accrue a year of participation. If an employee has 1,000 hours of service or more he must be credited with a partial year of participation equivalent to no less than a ratable portion of a full year of participation.

Continued on next page

Additional rules for year of participation, Continued**Commences or recommences participation after a break in service**

Where an employee who commences (or recommences participation after a break in service) participation in a plan on a date other than the first day of an applicable accrual computation period, all hours of service required to be credited to the employee during the entire accrual computation period, including hours before the date on which the employee commences (or recommences) participation, shall be taken into account in determining whether the employee has 1,000 or more hours of service.

If his service is not less than 1,000 hours in such accrual computation period, the employee must be credited with a partial year of participation which is equivalent to no less than a ratable portion of a full year of participation for service credited to the employee for the portion of the computation period after the date of commencement (or recommencement) of participation.

Pro-ration issue

In the case of a defined benefit plan that

- A. defines benefits on a basis which has the effect of prorating benefits to reflect less than full-time employment or less than maximum compensation and
- B. does not adjust less-than-full-time service to reflect the equivalent of full-time hours or compensation (as the case may be),

the plan may not further prorate benefit accruals by crediting less than full years of participation, as would otherwise be permitted. These plans generally must credit less-than-full-time employees with a full year of participation for the purpose of accrual of benefits.

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Additional rules for year of participation, Continued

**Amending plan
to change
accrual
computation
period**

A plan may be amended to change the accrual computation period to a different 12- consecutive-month period, provided that the period between the end of the last accrual computation period under the plan as in effect before such amendment and the beginning of the first accrual computation period under the plan as amended is treated as a partial accrual computation, subject to the following rules:

- A. Plans that have a minimum service requirement expressed in hours of service (or other units of service) for benefit accrual in a 12 month accrual computation period may apply a pro rata minimum service requirement for benefit accrual in a partial accrual computation period. The pro ration is equal to the plan's minimum service requirement for benefit accrual in a full accrual computation period, multiplied by the ratio of the length of the partial accrual computation period to a full year.
- B. In the case of a participant who meets a plan's minimum service requirement for benefit accrual in a partial accrual computation period, the plan shall credit the participant with at least a partial year of participation for purposes of benefit accrual.

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Additional rules for year of participation, Continued

**Example-
illustrating pro-
portion rule
above-facts**

A plan's defined benefit formula provides that the annual retirement benefit shall be 2 percent of the average compensation in all years of participation multiplied by the number of years of participation.

Employee A is a full-time employee who has completed 2,000 hours during each of 20 accrual computation periods. A's average hourly rate was \$5 an hour. Thus, A's average compensation for each year during participation in the plan is \$10,000 (\$5 per hour multiplied by 2,000 hours).

If the plan states that a full year of participation is 2,000 hours, then A's annual retirement benefits, if he retired at that time, would be \$4,000 (\$10,000 per year of compensation x .02 x 20 years of participation).

Employee B, however, is a part-time employee who completes 1,000 hours of service during each of 20 accrual computation periods. Like A, B's average hourly rate is \$5 per hour. B's average compensation for his total years of participation is \$5,000 (\$5 per hour multiplied by 1,000 hours).

Thus, the plan's benefit formula, by basing benefits on an employee's average compensation in all years of participation, in effect prorates benefits to reflect the fact that during B's participation in the plan, he has earned less than the maximum compensation that a full-time employee paid at the same rate could earn during the same period of participation in the plan.

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Additional rules for year of participation, Continued

Example- Analysis

Based on these facts the plan is not permitted to prorate B's years of participation to reflect B's less than full-time employment throughout his participation in the plan. Therefore, B's annual retirement benefit would be \$2,000 (\$5,000 average compensation x .02 x 20 years of participation). If double pro-ration were permitted, then B's total years of participation would be only 10 since he would be credited with only one-half of a year of participation during each of the accrual computation periods (1,000/2,000). Thus, B's annual retirement benefit would be \$1,000 (\$5,000 average compensation x .02 x 10 years of participation.)

If the plan adjusts the average compensation during plan participation to reflect full compensation, then the plan may prorate years of participation. Thus, if the average full annual compensation for B would be \$10,000 rather than the \$5,000 actually paid, his annual retirement benefit would then be \$2,000 (\$10,000 x .02 x 10 years of participation).

Example- illustrating amending computation period

A plan as initially adopted provided that to accrue a full year of participation an employee needed to complete 2,000 hours of service in a fiscal year. The Fiscal year ends on 6/30. Four years later, the plan is amended to provided that to accrue a full year of participation an employee needed to complete 2,000 hours of service in a calendar year.

In year 4 a short accrual computation period is created from 7/1/04 to 12/31/04. During that shortened period the plan must provide:

1. Any participant who completes 500 or more hours of service (1,000 x 6/12) will receive a partial benefit accrual.
2. Any participant who completes 1,000 or more hours of service (2,000 x 6/12) will receive a full year benefit accrual.
3. Where the employee completes 500 or more hours of service but less than 1,000 hours of service, he will receive a partial year of service based on the following formula:

$$\frac{\text{Hours Of Service Completed}}{1,000} \times \frac{6}{12}$$

The bottom line is that where eligibility and vesting service is always expressed as full years, under participation you can have partial years.

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Additional rules for year of participation, Continued

Audit tip

When determining years of participation count the number of years from the date of hire to the date of termination or testing. These should be approximately equal the years shown by the Taxpayer.

If there is more than a 1 year difference, question the Taxpayer as to how they arrived at the figure. Generally, where a plan only requires 1,000 hours of service for the full year, partial years are most likely to occur in the year of participation or in the year of termination.

Calculation of lump sum

Introduction

Once the projected benefit, accrued benefit and vesting have been determined, you can calculate the lump sum value. The lump sum is calculated using the greater of:

1. the present value using the plan's interest and mortality table, or
 2. the present value determined under IRC 417(e) using applicable interest and mortality table.
-

**Example-
illustrating
calculation of
lump sum-Facts**

Assume the following facts: A participant terminates service at age 45. He was hired at age 40 and participated in the Plan one year later at age 41. Normal Retirement Age is 65.

At the time of termination he has 5 years of service for vesting purposes and 4 years of benefit accruals.

The Plan's benefit formula is 50 % of the high three years average compensation. His high three years are \$40,000, \$35,000 and \$30,000. The plan uses the fractional rule of benefit accrual based on years of participation. The plan's Annuity Purchase Rate is 10 and it uses a 5 % pre & post retirement interest assumption.

The Applicable Interest rate is determined as of the first day of the first month preceding the plan year and for this example is 6 %. The Applicable Mortality Table produces an Annuity Purchase Rate of 11.53. The vesting schedule is the 3 to 7 year graded schedule of IRC section 411(2)(B).

**First step-
calculate
projected
benefit**

The first step is to calculate the participant's projected benefit.

The benefit formula is 50 % of the high three years average compensation. So, take the three highest years of compensation, add them together and divide by 3. This gives you the average compensation of \$35,000, which is then multiplied by 50 % to give you a projected benefit of \$17,500 at age 65.

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Calculation of lump sum, Continued

Table determining projected benefit

<i>Item</i>	<i>Amount</i>
a. Compensation Year 1:	\$30,000
b. Compensation Year 2:	35,000
c. Compensation Year 3:	40,000
d. Total(a+b+c):	\$105,000
e. 3 Year Average(d/3):	35,000
f. Projected Benefit (e x 50 %):	17,500

Calculate the accrued benefit

Under the fractional rule, the accrual is the number of years of participation completed through a participant's attained age divided by the number of years he would have completed by Normal Retirement Age.

Based on the facts, as of his attained age (age of termination), the Participant has 4 years of participation. Since he entered the plan at age 41, there were 24 years of participation to age 65. His accrued benefit fraction is 4/24 or .1666, which gives him an accrued benefit of \$2,917 at age 65.

Table calculating accrued benefit

<i>Item</i>	<i>Amount</i>
f. Projected Benefit (e x 50 %):	\$17,500
g. Years of Participation AA:	4
h. Years Participation to 65 (65-41):	24
i. Accrued Benefit Fraction (g/h):	0.1666667
j. Accrued Benefit (f x i):	\$2,917

Calculate vested accrued benefit

Since the participant had 5 years of vesting service he would be 60 % vested under the vesting schedule. His vested accrued benefit at age 65 is now \$1,750 per year.

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Calculation of lump sum, Continued

Table calculating vested accrued benefit

<i>Item</i>	<i>Amount</i>
j. Accrued Benefit (f x i):	\$2,917
k. Vested %:	60%
l. Vested Accrued Benefit (l x k):	\$1,750

Calculating lump sum

Once the vested accrued benefit is determined, the next step is to determine which provides the greater lump sum value, the Plan's interest and mortality or the Applicable Interest & Applicable Mortality. To determine this the vested accrued benefit is multiplied by each of the annuity purchase rates to determine a value at age 65. The amounts are then discounted to attained age (age 45 or 20 years) using both the Plan's interest rate and the Applicable Interest Rate. The amount the employee is entitled to is the greater of the two amounts thus determined. In this case the Plan's rate produced a larger lump sum.

Note the progression: His Projected Benefit was \$17,500 a year, but because he left before age 65, his accrued benefit was only \$2,917. He left before he was fully vested, so his vested accrued benefit was only \$1,750 per year.

Even though that is worth \$17,500 (or \$20,178) at age 65, because the money could have accumulated interest for 20 years, the plan would only have to have \$6,596 now to provide \$17,500 at 65. This is the amount he is entitled to.

Continued on next page

Calculation of lump sum, Continued

Table to calculate lump sum

<i>Item</i>	<i>Plan Rate (A)</i>	<i>Applicable Rates (B)</i>
1. Vested Accrued Benefit:	\$1,750	\$ 1,750
2. Annuity Purchase Rate @ 65:	10	11.53
3. Value @ 65 (1 x 2):	\$17,500	\$20,178
4. Years Discounted (65-45):	20	20
5. Interest Rate:	5%	6%
6. Value @ age 45:	\$6,596	\$6,291
7. Greater of 6.A or 6.B:	\$6,596	

Section 401(a)(26)

Introduction

IRC section 401(a)(26)(A) provides that a defined benefit plan, on each day of the plan year, must benefit at least the lesser of 50 employees of the employer, or the greater of 40 percent of all employees of the employer, or 2 employees (or if there is only 1 employee, such employee).

Plans that automatically deem to meet section 401(a)(26)

Some plans are automatically deemed to meet IRC section 401(a)(26). These include plans that:

1. Are not Top Heavy, are not aggregated for 401(a)(4) or 410(b) (except for the Average Benefits Test under IRC section 410(b)(2)(A)(ii)) and don't benefit current or former highly compensated employees,
2. The portion of a Multiemployer plan that benefits only the collectively bargained employees,
3. Certain under-funded defined benefit plans, and
4. Employees of plans which were subject to acquisition or disposal.

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Section 401(a)(26), Continued**A defined benefit plan that fails to meet section 401(a)(26)**

A defined benefit plan that fails to meet the above exceptions must meet IRC section 401(a)(26) as to both the current and the prior benefit structures.

The test under IRC section 401(a)(26) is a comparison of employees who are Non-excludable and Benefiting from the plan to employees who are Non-excludable.

Defining employee

For the purposes of the test the term Employee is any individual who performs services for the Employer either as a common law employee, as a self-employed individual or as a leased employee (other than a leased employee under IRC section 414(n)(5)).

Defining excludable employee and nonexcludable employee

From this base the following employees are excluded from consideration:

1. Collectively Bargained employees,
2. In a collectively bargained plan with air pilots in accordance with title II of the Railway Labor Act, employees not covered by such agreement,
3. Nonresident aliens,
4. Plan participants who fail to meet the prescribed minimum age and service requirements of the Plan, as permitted under IRC section 410(a)(1).

The employees who remain are the Non-excludable employees.

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Section 401(a)(26), Continued**Defining
“benefiting”
under the plan**

For the purposes of determining who is benefiting from the Plan, IRC section 401(a)(26) uses the same rules as IRC section 410. Thus an employee is treated as benefiting under a plan for a plan year if the employee has an increase in a benefit accrued or treated as an accrued benefit under section 411(d)(6).

An employee is not considered as benefiting where:

1. IRC section 415 limits the amount of accruals, or
2. in plans where the employee would have had an increase in his accrued benefit but didn't because:
 - A. The benefit exceed a plan limit that is applicable to all employees,
 - B. his prior accrued benefit previously exceeds the current accrual , or
 - C. his current benefit accrual is reduced under an offset arrangement. (In this instance, offset refers only to the extent that the benefit being tested is offset due to periods for which the plan credits pre-participation service or past service).

**Defining prior
benefit
structures**

For the purposes of the 401(a)(26) coverage test, the prior benefit structure are all accrued benefits under the plan as of the beginning of a plan year (including benefits rolled over or transferred to the plan).

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Section 401(a)(26), Continued

401(a)(26) test To meet coverage, the plan's prior benefit structure must provide meaningful benefits to a group of employees that includes the lesser of

- 50 employees or
- 40 percent of the employer's employees.

A plan satisfies these requirements if

- those employees currently accrue meaningful benefits under the plan, or
- the number of employees and former employees has meaningful accrued benefits under the plan.

**Defining
"meaningful
benefits"**

Reg. section 1.401(a)(26)-3(c)(2) provides that whether a plan is providing meaningful benefits, or whether individuals have meaningful accrued benefits under a plan, is determined on the basis of all the facts and circumstances. It states that the relevant factors in making this determination include, but are not limited to:

1. the level of current benefit accruals;
2. the comparative rate of accruals under the current benefit formula compared to prior rates of accrual under the plan;
3. the projected accrued benefits under the current benefit formula compared to accrued benefits as of the close of the immediately preceding plan year;
4. the length of time the current benefit formula has been in effect;
5. the number of employees with accrued benefits under the plan; and
6. the length of time the plan has been in effect.

The regulation further states that a plan does not satisfy this paragraph if it exists primarily to preserve accrued benefits for a small group of employees and thereby functions more as an individual plan for the small group of employees or for the employer.

The National Post of Duty has taken a stance that benefits which accrue at less than .5 % a day would appear not to provide meaningful benefits and should be referred to the National Post of Duty for Technical Advice.

Section 401(a)(26) and offset arrangements

Introduction- benefits provided by another plan are considered

Where a Plan's benefit is offset by the benefits provided by another Plan of the Employer, the benefits prior to the offset being applied will be considered as accruing for the purposes of IRC section 401(a)(26) if certain requirements are met.

These requirements are:

1. the employee accrues (or would have accrued) a benefit if the offset or reduction portion of the benefit formula were disregarded
2. with regard to an offset or reduction of benefits, if the benefit formula provides that an employee will not accrue additional benefits under the current portion of the benefit formula until the employee has accrued, under such portion, a benefit in excess of such employee's benefit under one or more formulas in effect for prior years that are based wholly on prior years of service.

The prior benefit may

- a. have accrued under the same or a separate plan,
- b. may be provided under the same or a separate plan and
- c. may relate to service with the same or previous employers.

Benefits will not fail to be treated as based wholly on prior years

Benefits will not fail to be treated as based wholly on prior years if:

- a. they are based, directly or indirectly, on compensation earned after such prior years (including compensation earned in the current year),
- b. if they are adjusted to reflect increases in the section 415 limitations, or
- c. if they are increased to provide an ad hoc cost of living adjustment designed to adjust, in whole or in part, for inflation.

Furthermore, benefits do not fail to be treated as based wholly on prior years merely because the benefits (e.g., early retirement benefits) are subject to an age or years-of-service condition and, in applying the condition or conditions, the current and prior years are taken into account.

Continued on next page

Section 401(a)(26), Continued**Additional requirements of offset benefits are provided by the same employer**

Where the benefit formula under a defined benefit plan is offset or reduced for contributions or benefits under another plan that is maintained by the same employer, the following additional requirements must be met:

- a. The contributions or benefits under a plan that are used to offset or reduce the benefits under the positive portion of the formula being tested accrued under such other plan,
 - b. The employees who benefit under the formula being tested also benefit under the other plan on a reasonable and uniform basis; and
 - c. The contributions or benefits under the plan that are used to offset or reduce the benefits under the formula being tested are not used to offset or reduce that employee's benefits under any other plan or any other formula.
-

401(a)(26)-each day of the plan year**Introduction**

The coverage requirements of IRC section 401(a)(26) differ from IRC section 410 in that the plan must satisfy section 401(a)(26) on each day of the plan year, not just one day in each quarter.

For the purposes of IRC section 401(a)(26) an employee benefits on a day if the employee is a participant for such day and the employee benefits under the plan for the year. A plan will be deemed to satisfy the requirements of IRC section 401(a)(26), if it meets those requirements on any single plan day during the plan year and that day is reasonably representative of the employer's workforce and the plan's coverage.

Continued on next page

401(a)(26)-each day of the plan year, Continued**Issue-when plans try to maximize benefits for HCEs—may fail 401(a)(26)**

In an effort to maximize benefits for the Highly Compensated Owners, some plans are trying to cover the bare minimum of employees that will produce the lowest costs.

Eligibility under these plans is limited to the Owners and then to the employees needed to meet the 40 % coverage test, starting with the lowest compensated employee and working their way up.

The plan does not have a minimum age or service requirement. As a result, the employees covered are those who were either first hired or were terminated in the Plan Year. The result is that these individuals are not employees on each an every day of the year and therefore are not “Non-excludable” employees on the dates they are not employed.

The Employer will provide the Agent with the coverage test based on the coverage for the entire year, rather than as of a particular day that is reasonably representative of the employer’s workforce and the plan’s coverage. When the actual coverage is reviewed on a day by day basis, IRC section 401(a)(26) is not met.

Example

Using the same basic facts as in Example 40, add the following facts. The Plan Year is a calendar year. Of the ten non-excludable employees 2 are the highly compensated employee owners.

Of the remaining 8, all are non-highly compensated. The 6 who do not participate in the Plan were employed for the entire plan year. Non-highly Compensated Employee/participant # 1 worked for 2 days, 2/4 & 2/5 of the Plan Year. Non-highly Compensated Employee/participant # 2 was first hired on 12/25 and worked only 1 week in the Plan Year. The Representative presents 401(a)(26) coverage as follows:

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401(a)(26)-each day of the plan year, Continued

Total Employed:	10
Less: Excluded by Statute:	0
Non- excludable:	10
Participating:	4
401(a)(26) %:	40%

Coverage can be broken down into 2 representative days

The coverage noted above is for the entire plan year but not for a particular day. In reality the coverage can be broken down into 2 representative days:

1. 2/4 which represents the coverage from 12/25 to 12/31 and for 2/4 to 2/5, and
 2. 2/3 which represents all the other days of the Plan Year, as follows:
-

Date Represented:	2/3	2/4
Total Employed:	8	9
Less: Excluded by Statute:	0	0
Non- excludable:	8	9
Participating:	2	3
401(a)(26) %:	25%	33%

Plan fails to meet 401(a)(26)

As can be seen when presented this way the plan fails to meet IRC section 401(a)(26) on each and every day of the plan year.

Audit tip

A key aspect of this type of dodge is that the Plan does not have either a minimum age or a minimum service requirement. If you get one of these plans review the compensation of the non-highly compensated employee participants. If several of them have compensation that is exceptionally low then ask about their hire and termination dates. If they were first employed or were terminated in the year, you probably have this issue.
